

International Journal of Innovative Technology and Exploring Engineering

ISSN : 2278 - 3075

Website: www.ijitee.org

Volume-9 Issue-8, JUNE 2020

Published by:

Blue Eyes Intelligence Engineering and Sciences Publication



Editor-In-Chief Chair

Dr. Shiv Kumar

Ph.D. (CSE), M.Tech. (IT, Honors), B.Tech. (IT), Senior Member of IEEE, Member of the Elsevier Advisory Panel
CEO, Blue Eyes Intelligence Engineering & Sciences Publication, Bhopal (M.P.), India
Additional Director, Technocrats Institute of Technology and Science, Bhopal (MP), India

Associated Editor-In-Chief Members

Dr. Hitesh Kumar

Ph.D.(ME), M.E.(ME), B.E. (ME)

Professor and Head, Department of Mechanical Engineering, Technocrats Institute of Technology, Bhopal (MP), India

Dr. Gamal Abd El-Nasser Ahmed Mohamed Said

Ph.D(CSE), MS(CSE), BSc(EE)

Department of Computer and Information Technology , Port Training Institute, Arab Academy for Science, Technology and Maritime Transport, Egypt

Associated Editor-In-Chief Members

Dr. Mayank Singh

PDF (Purs), Ph.D(CSE), ME(Software Engineering), BE(CSE), SMACM, MIEEE, LMCSI, SMIACSIT

Department of Electrical, Electronic and Computer Engineering, School of Engineering, Howard College, University of KwaZulu-Natal, Durban, South Africa.

Scientific Editors

Prof. (Dr.) Hamid Saremi

Vice Chancellor of Islamic Azad University of Iran, Quchan Branch, Quchan-Iran

Dr. Moinuddin Sarker

Vice President of Research & Development, Head of Science Team, Natural State Research, Inc., 37 Brown House Road (2nd Floor) Stamford, USA.

Dr. Fadiya Samson Oluwaseun

Assistant Professor, Girne American University, as a Lecturer & International Admission Officer (African Region) Girne, Northern Cyprus, Turkey.

Dr. Robert Brian Smith

International Development Assistance Consultant, Department of AEC Consultants Pty Ltd, AEC Consultants Pty Ltd, Macquarie Centre, North Ryde, New South Wales, Australia

Dr. Durgesh Mishra

Professor (CSE) and Director, Microsoft Innovation Centre, Sri Aurobindo Institute of Technology, Indore, Madhya Pradesh India

Executive Editor

Dr. Deepak Garg

Professor, Department Of Computer Science And Engineering, Bennett University, Times Group, Greater Noida (UP), India

Executive Editor Members

Dr. Vahid Nourani

Professor, Faculty of Civil Engineering, University of Tabriz, Iran.

Dr. Saber Mohamed Abd-Allah

Associate Professor, Department of Biochemistry, Shanghai Institute of Biochemistry and Cell Biology, Shanghai, China.

Dr. Xiaoguang Yue

Associate Professor, Department of Computer and Information, Southwest Forestry University, Kunming (Yunnan), China.

Dr. Labib Francis Gergis Rofaiel

Associate Professor, Department of Digital Communications and Electronics, Misr Academy for Engineering and Technology, Mansoura, Egypt.

Dr. Hugo A.F.A. Santos

ICES, Institute for Computational Engineering and Sciences, The University of Texas, Austin, USA.

Dr. Sunandan Bhunia

Associate Professor & Head, Department of Electronics & Communication Engineering, Haldia Institute of Technology, Haldia (Bengal), India.

Technical Program Committee

Dr. Mohd. Nazri Ismail

Associate Professor, Department of System and Networking, University of Kuala (UniKL), Kuala Lumpur, Malaysia.

Technical Program Committee Members

Dr. Haw Su Cheng

Faculty of Information Technology, Multimedia University (MMU), Jalan Multimedia (Cyberjaya), Malaysia.

Dr. Hasan. A. M Al Dabbas

Chairperson, Vice Dean Faculty of Engineering, Department of Mechanical Engineering, Philadelphia University, Amman, Jordan.

Dr. Gabil Adilov

Professor, Department of Mathematics, Akdeniz University, Konyaaltı/Antalya, Turkey.

Manager Chair

Mr. Jitendra Kumar Sen

Blue Eyes Intelligence Engineering & Sciences Publication, Bhopal (M.P.), India

Editorial Chair

Dr. Arun Murlidhar Ingle

Director, Padmashree Dr. Vithalrao Vikhe Patil Foundation's Institute of Business Management and Rural Development, Ahmednagar (Maharashtra) India.

Editorial Members

Dr. J. Gladson Maria Britto

Professor, Department of Computer Science & Engineering, Malla Reddy College of Engineering, Secunderabad (Telangana), India.

Dr. Wameedh Riyadh Abdul-Adheem

Academic Lecturer, Almamoon University College/Engineering of Electrical Power Techniques, Baghdad, Iraq

Dr. S. Brilly Sangeetha

Associate Professor & Principal, Department of Computer Science and Engineering, IES College of Engineering, Thrissur (Kerala), India

Dr. Issa Atoum

Assistant Professor, Chairman of Software Engineering, Faculty of Information Technology, The World Islamic Sciences & Education University, Amman- Jordan

Dr. Umar Lawal Aliyu

Lecturer, Department of Management, Texila American University Guyana USA.

Dr. K. Kannan

Professor & Head, Department of IT, Adhiparasakthi College of Engineering, Kalavai, Vellore, (Tamilnadu), India

Dr. Mohammad Mahdi Mansouri

Associate Professor, Department of High Voltage Substation Design & Development, Yazd Regional Electric Co., Yazd Province, Iran.

Dr. Kaushik Pal

Youngest Scientist Faculty Fellow (Independent Researcher), (Physicist & Nano Technologist), Suite.108 Wuhan University, Hubei, Republic of China.

Dr. Wan Aezwani Wan Abu Bakar

Lecturer, Faculty of Informatics & Computing, Universiti Sultan Zainal Abidin (Uni SZA), Terengganu, Malaysia.

Dr. P. Sumitra

Professor, Vivekanandha College of Arts and Sciences for Women (Autonomous), Elayampalayam, Namakkal (DT), Tiruchengode (Tamil Nadu), India.

Dr. S. Devikala Rameshbabu

Principal & Professor, Department of Electronics and Electrical Engineering, Bharath College of Engineering and Technology for Women Kadapa, (Andra Pradesh), India.

Dr. V. Lakshman Narayana

Associate Professor, Department of Computer Science and Engineering, Vignan's Nirula Institute of Technology & Science for women, Guntur, (Andra Pradesh), India.

	Authors:	Jasmine Vijithra A , Deepeka B, Sri Vaishnavi E, Srivani K, Gattu Bindhu		
	Paper Title:	Design of Zipper Antenna for Women Safety	1.	<p>Abstract: The suggested system utilizes an inverted F metal zipper to act as an antenna. Here we have proposed an antenna which is designed using HFSS software in order to assure safety of women. The antenna design is carried out in three layers namely Ground plane, substrate and patch. Copper is used as ground and patch and substrate is made of FR4 material. The feeding point is identified at the bottom of the zipper, nearby one of the teeth. Simulations and measurements are made with HFSS. Changes in the radiations styles and the reflections coefficients happens when there is any disturbance in the teeth. The zipper constantly remains closed. The antenna will function even if the zipper is partially opened or closed. The suggested model remains as reconfigurable, particularly for radiation styles and also possess high gain value. The measured values give proper results based on simulations in terms of matching functionalities and radiation properties for the designed zipper, which acts as a good wireless product for women safety. This antenna design can be used in various applications when it is interfaced with some embedded system devices like GPS in order to find the location of the affected person and the material onto which it is going to be placed can also be made flexible that is, it can be used as Zip in dress material, hand bag, or can also be worn as an ornament.</p> <p>Keywords - Zipper antenna, ground plane, FR4, reconfigurable.</p> <p>References:</p> <ol style="list-style-type: none"> 1. B.R.Sanjeeva Reddy, D.Vakula, A.Amulya Kumar, (2018) "Performance analysis of wearable antenna array for WLAN application", IEEE Conference. 2. Albert Sabban, (2018) "Small wearable antenna for wireless communication and medical system", IEEE Conference. 3. Kai-Hong Wang, Jiu-Sheng Li, (2018) "Jeans Textile Antenna for Smart Wearable Antenna", IEEE Conference. 4. Gaosheng Li, Yi Huang, Gui Gao, Xianju Wei, Zhihao Tian, Li-an Bian (2017) "A Handbag Zipper antenna for the applications of body-centric wireless communications and Internet of Things", IEEE Transactions on Antennas and Propagation, Vol.65. 5. Pavel Schilingoviski, Vladimin Vulfin, Shai Sayfan Altman, (2017) "Wearable antenna design for wireless communication", IEEE Transactions. 6. Sam Agneessens, Sam Lemey, Thomas Vernist, (2015) "Wearable, small and robust: the circular quarter mode textile antenna", IEEE Transactions, Vol.14. 7. Sen Yan, Ping Jack Soh, Guy A.E.Vandenbosch, (2015) "Wearable dual band magneto electric dipole antenna for WBAN/WLAN applications", IEEE Transactions, Vol.63. 8. M.Virli, H.Rogier, F.Alimenti, P.Mezzanotte, L.Roselli, (2014) "Wearable Textile Antenna Magnetically Coupled to Flexible Active Electronic Circuits", IEEE Antennas and Wireless Propagation letters, Vol.13.
	Authors:	Vaibhav Kothari, Nitin Namdev	2.	<p>Paper Title: Friend Recommendation using Unsupervised Machine Learning</p> <p>Abstract: Friend recommendation is one of a lot of accepted characteristics of amusing arrangement platforms, which recommends agnate or accustomed humans to users. The abstraction of friend recommendation originates from amusing networks such as Twitter and Facebook, which uses friends-of-friends adjustment to acclaim people. We can say users do not accomplish accompany from accidental humans but end up authoritative accompany with their friends' friends. The absolute methods accept attenuated ambit of recommendation and are beneath efficient. Here in our proposed access, we are applying an added hierarchical clustering technique with the collaborative clarification advocacy algorithm as well the Principle Component Analysis (PCA) adjustment is activated for abbreviation the ambit of abstracts to get added accurateness in the results. The hierarchical clustering will accommodate added allowances of the clustering technique over the dataset, and the PCA will adviserefining the dataset by abbreviating the ambit of the dataset as required. By implementing the above appearance of these two techniques on the acceptable collaborative clarification advocacy algorithm, the above apparatus acclimated for recommendations can be improved.</p> <p>Keywords: Friend recommendation, collaborative filtering, social network, Recommendation system.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Haruna K, Ismail MA, Damiasih D, Sutopo J, Herawan T. A collaborative approach for research paper recommender system. Plos One. 2017, 12(10):e0184516. https://doi.org/10.1371/journal.pone.0184516 PMID: 28981512 2. Rojas G, Garrido I. Toward a rapid development of social network-based recommender systems. IEEE Latin America Transactions. 2017, 15(4):753–759. 3. Huang S, Zhang J, Wang L, Hua XS. Social Friend Recommendation Based on Multiple Network Correlation. IEEE Transactions on Multimedia. 2016, 18(2):287–299. 4. Corbellini A, Mateos C, Godoy D, Zunino A, Schiaffino S. An architecture and platform for developing distributed recommendation algorithms on large-scale social networks. Journal of Information Science. 2015, 41(5):686–704. 5. Fields B, Jacobson K, Rhodes C, Inverno M, Sanler M, Casey M. Analysis and Exploitation of Musician Social Networks for Recommendation and Discovery. IEEE Transactions on Multimedia. 2011, 13 (4):674–686 6. Chamoso P, Rivas A, Rodri ´guez Sara, Bajo J. Relationship recommender system in a business and employment-oriented social network. Information Sciences. 2018, s 433–434:204–220.

	<ol style="list-style-type: none"> 7. Guo G, Zhang J, Zhu F, Wang X. Factored similarity models with social trust for top-N friend recommendation. Knowledge-Based Systems. 2017, 122:17–25. 8. Zhang Z, Liu H. Social recommendation model combining trust propagation and sequential behaviors. Applied Intelligence. 2015, 43(3):695–706. 9. Maier C, Laumer S, Eckhardt A, Weitzel T. Giving too much social support: social overload on social networking sites. European Journal of Information Systems. 2015, 24(5):447–464. 10. Lee S, Koubek RJ. The effects of usability and web design attributes on user preference for e-commerce web sites. Computers in Industry. 2010, 61(4):329–341. 11. Andreasen T, Jensen PA, Nilsson JF, Paggio P, Pedersen BS, Thomsen HE. Content-based text querying with ontological descriptors. Data & Knowledge Engineering. 2004, 48(2):199–219 12. Huang S, Zhang J, Wang L, Hua XS. Social Friend Recommendation Based on Multiple Network Correlation. IEEE Transactions on Multimedia. 2016, 18(2):287–299. 					
3.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Authors:</td> <td>Sherine Glory J, Ms.Bhavani.M, Baarath S, Adarsh N, Ajay Durai V</td> </tr> <tr> <td>Paper Title:</td> <td>Expert System for Diagnosing Skin Disease</td> </tr> </table> <p>Abstract: The most unpredictable and difficult terrain in the field of medical diagnosis is dermatology. Dermatological diseases are the most prevalent diseases that one out of three men suffer skin disorder. Regardless of being prevalent, diagnosis of these diseases require more experience in domain. About 90 percent of skin disorders can be cured by primary care. This conveys that the early care for the disease is necessary. This early stage detection can be made easier by computer aided diagnosis system. Diagnostic expert-based computer systems that simulate the diagnostic ability of human body and disease. So we propose Expert system which classify skin diseases based on their appearance and its characteristics. Rather than training every diseases in single image classifier model. We categorize skin disease based on their characteristic and train model separately for each category. This system will filter and cleans data and categorize based on their characteristics. Feature extraction and classification using complex methods such as the convolutional neural network(CNN) and softmax classifier. This system will provide more accuracy, fast and efficient result than traditional method.</p> <p>Keywords: Dermatology, computer aided diagnosis, Expert System, Convolutional Neural Network ;</p> <p>References:</p> <ol style="list-style-type: none"> 1. “Diagnosis of skin diseases using Convolutional Neural Networks” Jainesh Rathod, Vishal Waghmode, Aniruddh Sodha, Dr. Prasenjit Bhavathankar Department Of Information Technology, Sardar Patel Institute Of Technology, Mumbai 2. “The science of assisting medical diagnosis: From Expert systems to Machine-learned models” by Anitha Kannan 3. https://towardsdatascience.com/a-comprehensive-guide-to-convolutional-neural-networks-the-eli5-way-3bd2b1164a53 4. https://www.sciencedirect.com/topics/engineering/convolutional-layer 5. https://www.geeksforgeeks.org/introduction-convolution-neural-network/ 6. Dermatological Disease Detection Using Image Processing and Machine Learning by Sujay S Kumar Computer Science Department PES Institute of Technology. 7. Human Skin Texture Analysis using Image Processing Techniques by Damanpreet Kaur & Prabhneet Sandhu. 8. A Fuzzy Expert System Design for Diagnosis of Skin Disease by Muhammad Asim Ali Raza, Muhammad Sheharyar Liaqat, Muhammad Shoaib. Department of Computer Science & Engineering, University of Engineering & Technology, Lahore, Pakistan. 9. Expert System To Detect Human’s Skin Diseases Using Forward Chaining Method Based On Web Mobile by STMIK Nusa Mandiri, Information Technology Program Jakarta, Indonesia, AMIK BSI Purwokerto Manajemen Informatik Program Purwokerto, Indonesia, ABA BSI Jakarta, English Program Jakarta, Indonesia. 	Authors:	Sherine Glory J, Ms.Bhavani.M, Baarath S, Adarsh N, Ajay Durai V	Paper Title:	Expert System for Diagnosing Skin Disease	9-12
Authors:	Sherine Glory J, Ms.Bhavani.M, Baarath S, Adarsh N, Ajay Durai V					
Paper Title:	Expert System for Diagnosing Skin Disease					
4.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Authors:</td> <td>Deoyani Mujbaile, Dinesh Rojatar</td> </tr> <tr> <td>Paper Title:</td> <td>Dehazing of Images using Minimum White Balance Optimization</td> </tr> </table> <p>Abstract: The quality of image captured in presence of fog and haze is degraded due to atmospheric scattering. In order to restore such images, several dehazing algorithms have been proposed. These algorithms sometimes, results in either a contrast distorted dehazed image or a dehazed image that has influence of dense haze. In order to solve this problem, dynamic facsimile dehaze system built on minimum white balance optimization is proposed. This paper proposed a system that integrates some famous single image dehazing algorithms and enhance their outputs using histograms and adaptive histograms; then adaptively select the output with minimum white balance distortion in order to get the optimum output. Experimental results demonstrated that the presented system can attain better dehazing effect and further improves universality of dehazing methods. Also proposed system improves luminance and contrast of dehazed images to a certain extent.</p> <p>Keywords: Adaptive histogram equalization, contrast distorted, dynamic, histogram equalization.</p> <p>References:</p> <ol style="list-style-type: none"> 1. E. J. McCartney, “Optics of the Atmosphere: Scattering by Molecules and Particles,” John Wiley and Sons, New York, 1967. 2. G. M. Hidy, “Aerosols and Atmospheric Chemistry,” Academic Press, New York, 1972. 3. J. N. Myers, “Fog,” Scientific American, pages 75-82, December 1968. 4. B. J. Manson, “Clouds, Rain and Rainmaking,” Cambridge University Press, Cambridge, 1975. 5. M. Minnaret, “The Nature of Light and Color in the Open Air,” Dover, New York, 1954. 6. S. K. Nayar and S. G. Narasimhan, “Chromatic Framework for Vision in Bad Weather,” in Proc. IEEE Transaction International Conference Computer Vision Pattern Recognition, 2000, pp. 598-605. 7. S. K. Nayar and S. G. Narasimhan, “Vision in Bad Weather,” in Proc. IEEE Transaction International Conference Computer Vision, 1999, pp. 802-827. 8. Guo F, Cai Z X and Xie B, “Review and Prospect of Image Dehazing Techniques,” Journal of Computer Applications, vol. 30, No. 9, 2010, pp. 2417-2421. 	Authors:	Deoyani Mujbaile, Dinesh Rojatar	Paper Title:	Dehazing of Images using Minimum White Balance Optimization	13-19
Authors:	Deoyani Mujbaile, Dinesh Rojatar					
Paper Title:	Dehazing of Images using Minimum White Balance Optimization					

	<ol style="list-style-type: none"> 9. Zhu P, Zhu H and Qian X M, "An Image Clearness Method for Fog," Journal of Image and Graphics, vol. 9, No. 1, 2004, pp. 124-128. 10. Zhai Y S, Liu X M and Ya-Yuan T U, "An Improved Fog-Degraded Image Clearness Algorithm," Journal of Dalian Maritime University, vol. 33, No. 3, 2007, pp. 55-58. 11. Wang P, Zhang C and Luo Y X, "Fast Algorithm to Enhance Contrast of Fog-Degraded Images," Journal of Computer Applicatons, vol. 26, No. 1, 2006, pp. 152-161. 12. Land E H, "The Retinex Theory of Color Vision," Scientific American, vol. 237, No. 6, 1977, pp. 108. 13. S. Parihar and K. Singh, "A Study on Retinex Based Methods for Image Enhancement," Second International Conference on Inventive Systems and Control, 2018, pp. 619-624. 14. S. K. Nayar and S. G. Narasimhan, "ontrast Restoration of Weather Degraded Images," IEEE Transaction on Pattern Analysis and Machine Intelligence (PAMI), 2003, pp. 25:713-724. 15. R. Tan, "Visiblity in Bad Weather from a Single Image," IEEE Conference on Computer Vision and Pattern Recognition, 2008. 16. S. K. Nayar and S. G. Narasimhan, "Vision and the Atmosphere," International Journal of Computer Vision, vol. 48, No. 3, 2002. Pp. 233-254. 17. Y. Y. Schechner, S. K. Nayar and S. G. Narasimhan, "Instant Dehazing of Images Using Polarization," IEEE International Conference on Computer Vision Pattern Recognition, 2001, pp. 325-332. 18. J. P. Tarel and N. Hautiere, "Fast Visibility Restoration from a Single Color Gray Level Image," International Conference on Computer Vision, 2009, pp. 2201-2208. 19. K. He, J. Sun and X. Tang, "Single Image Haze Removal Using Dark Channel Prior," IEEE Conference on Computer Vision and Pattern Recognition, 2009. 20. G. Meng, Y. Wang and J. Duan, "Efficient Image Dehazing with Boundary Constraint and Contextual Regularization," International Conference on Computer Vision, 2013, pp. 616-624. 21. Y. Lang, K. Zhao, W. Zhang and Y. Li, "A Self-Adaption Single Image Dehaze Method Based on Clarity-evaluation-function of Image," International Conference on Advanced Mechatronic Systems, 2018. 22. S. Patel and M. Goswami, "Comparative Analysis of Histogram Equalization Techniques," IEEE International Conferennce on Contemporary Computing and Informatics, 2014. 23. D. Mujbaile and D. Rojatkhar, "Model Based Dehazing Algorithms for Hazy Image Restoration – A Review," 2nd International Conference on Innovative Mechanisms for Industry Applications, 2020. 					
5.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Authors:</td> <td>M. Rama Bai, G. Meghana</td> </tr> <tr> <td>Paper Title:</td> <td>Recognition of Lung Tumor Area Based on Watershed Segmentation and CNN</td> </tr> </table> <p>Abstract: Early recognition of tumor would assist in saving an enormous number of lives over the globe frequently. Study and remedy of lung tumor have been one of the greatest troubles faced by humans over the latest few decades. Effective recognition of lung tumor is a vital and crucial aspect of image processing. Several Segmentation methods were used to detect lung tumor at an early stage. An approach is presented in this paper to diagnose lung tumor from CT scan images. The input image (CT scan image) will be preprocessed initially using median filter to remove the noise. After applying preprocessing technique, the Dual-Tree Complex Wavelet Transform (DTCWT) segmentation technique is used for the edge detection. The Gray-Level Co-occurrence Matrix (GLCM) features are calculated based on the pixel values of the extracted image. These features can be compared with database images using Convolutional Neural Network (CNN) which facilitates in categorizing it as tumorous. After confirming that the affected area is tumorous, watershed segmentation algorithm is used to get the color features of the tumor.</p> <p>Keywords: Preprocessed, DTCWT, GLCM, Convolutional Neural Network, watershed segmentation algorithm</p> <p>References:</p> <ol style="list-style-type: none"> 1. Anita Chaudhary, Sonit Sukraj Singh, Lung Cancer Detection on CT Images(2012). 2. http://globocan.iarc.fr/Pages/fact_sheets_most_cancers.aspx. 3. BC Lee, JB Keeland, PT Cahill, "MR recognition of supratentorial tumors". 4. S Yohe, IT Yeh, "Missed diagnosis of phyllodes tumor on breast biopsy: pathologic clues to its recognition". 5. Y Yu, Y Yao, H Yan, R Wang, "A tumor specific microRNA recognition system facilitates the accurate targeting to tumor cells by magnetic nanoparticles". 6. SA Patil, MB Kuchanur, "Lung cancer classification using image processing". 7. Mir Rayat Imtiaz Hossain, Imran Ahmed, "Automatic Lung Tumor Detection Bsed on GLCM Features". 8. L Li, Y Wu, Y Yang, L LI, B Wu, "A new strategy to detect lung cancer on CT images". 	Authors:	M. Rama Bai, G. Meghana	Paper Title:	Recognition of Lung Tumor Area Based on Watershed Segmentation and CNN	20-24
Authors:	M. Rama Bai, G. Meghana					
Paper Title:	Recognition of Lung Tumor Area Based on Watershed Segmentation and CNN					
6.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Authors:</td> <td>Sachin Ramesh Bhure, A. A. Warudkar</td> </tr> <tr> <td>Paper Title:</td> <td>Mathematical Modeling for Routes and Cost of Local Transports in Pune City</td> </tr> </table> <p>Abstract: Transportation problem is considered a vitally important aspect that has been studied in a wide range of operations including research domains. As such, it has been used in simulation of several real life problems. The transportation model is for the optimization of routes, cost and travelling of peoples with the help of public transport buses from the source to the destination by road. The data is collected which includes number of trips per day, cost of trips per trip ,distance between source and destination etc. manually through the questionery interview with the conductors drivers and the regular travelling peoples travelling on that route as well as data collection from PMPML office and calculation for minimizing the transportation cost have been done. The result of the research with proper scheduling, proper routing of buses can save Rs. 48865.875 in a 1 day. The saving of the transportation cost increases the profit of the PMPML. The total saving amount profit percentage is about 18.15% increase from saving transportation cost. The parameters as discussed above are considered and collected manually with the help of survey sheet and transportation model is prepared and after that calculation for minimizing the transportation cost have been done. The methods used for minimization of transportation of cost are Northwest corner method, Least count method etc. The result of the research gives with proper scheduling, routing of buses can save generate so much of revenue with saving of cost.. The amount saved from the transportation cost is utilized for increase the facilities in bus such as A.C, Automatic door system, Air</p>	Authors:	Sachin Ramesh Bhure, A. A. Warudkar	Paper Title:	Mathematical Modeling for Routes and Cost of Local Transports in Pune City	21-28
Authors:	Sachin Ramesh Bhure, A. A. Warudkar					
Paper Title:	Mathematical Modeling for Routes and Cost of Local Transports in Pune City					

	<p>suspension, Good quality of seats etc.</p> <p>Keyword: Least cost method, Minimum transportation cost, North West corner method, Transportation problem.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Dr. L.R Kadiyali, Traffic engineering and transportation planning, 1 January 1999 2. V.N Vazirani, S.P Chandola, Transportation engineering vol-1, 1 January 2016. 3. B.K Mishra and B .N.Mishra, Optimization: Linear Programming, Jan 8, 2014 4. Dimitris Bertsimas , John N Tsitsiklis, Introduction to Linear Optimization (Athena Scientific Series in Optimization and Neural Computation, 6, 1 February 1997 5. Robert J Vanderbei, Linear Programming: Foundations and Extensions,2008 6. Radu Strugariu, Marius Durea, An Introduction to Nonlinear Optimization Theory, 15 Dec 2011 7. Kaushik Kumar,J. Paulo Davim, Optimization for Engineering Problems, 9 July 2019 8. Bettina ,KlinzaGerhard ,J.Woegingerb, Discrete Applied Mathematics, 28 July 2011 9. R. Palniyappa, V.VinobaA,"A study of Unbalanced Transportation problem and use of object oriented programming", International Research Journal of pure Algebra 4(4), ISSN 2248-9037 (2014). 10. M.S. Uddin, S. Anam, A. Rashid and A.R. Khan. "Minimization of transportation cost by developing an efficient network model" Journal of Mathematics & Mathematical Sciences, 2011. 11. L.V. KANTOROVICH, "On the translocations of masses, Doklady Akad", Nauk SSr, 37 (1942), Translated in Management Science, 5, No. 1(1958). 12. A.R.Khan "A re-solution of the transportation problem: an algorithmic approach" Journal of Science, 2011. 13. Chin Wei Yang, Hui Wen Cheng, Tony R. Johns and Ken Hung. "Nonlinear integer programming transportation models: an alternative solution" Advances in Management & Applied Economics, vol.1, 2011. 					
7.	<table border="1"> <tr> <td>Authors:</td> <td>W. Sylvia Lilly Jebarani, Santhosh G J, Suresh Krishnan B</td> </tr> <tr> <td>Paper Title:</td> <td>Conservation of Energy using Object Detection Model</td> </tr> </table> <p>Abstract: Energy conservation has become a vital responsibility for every citizen. Considering classroom environment, electric appliances like fans and lights are usually unmonitored while students leave. It leads to the wastage of electricity. To save electricity, conventionally, sensors can be deployed to detect the presence / absence of person in the classroom and control electric appliances based on its trigger. Since (low-cost) sensors have reliability issues with shorter life span, it can't be used effectively. On the other hand, if costly (high precision and reliability) sensors were used to detect persons, deploying it in each and every classroom is not practicable due to very high initial investment. Here, this paper's approach is to use a medium quality, low cost night vision web-camera to detect persons inside classroom using YOLOv3 Object detection model built on top on TensorFlow framework. Computational capabilities for processing webcam footage is provided by PCs inside each and every classroom. (Assumption: Each and every classroom has a dedicated PC for sharing power-point slides) Switch board is configured with relays, which are connected in parallel to normal switches to allow manual intervention. Relays are controlled by Wi-Fi enabled micro-controllers like NodeMCU. Communication is made possible between NodeMCU and PC via LAN. By this means, a huge amount of electricity can be saved with least deployment cost.</p> <p>Keywords: YOLOv3, NodeMCU, Relay, Common Objects in Context (COCO), Switch Board, DC Power supply.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Joseph Redmon, Ali Farhadi, "YOLOv3: An Incremental Improvement" - arXiv:1804.02767v1 [cs.CV] 8 Apr 2018 2. Prabesh Paudel, Sangkyoon Kim, Soonyoung Park, Kyoung-Ho Choi, "A Context-aware Architecture for Energy Saving in Smart Classroom Environments" - 2019 IEEE International Conference on Consumer Electronics (ICCE) 3. Ananya Nunna, Arundhati Varma, Tarun S, Rubesh Kumar N, Sangeetha M, "Classroom Automation Using RSSI" - 2019 IEEE 1st International Conference on Energy, Systems and Information Processing (ICESIP) 4. Abdelkader Dekdouk, "Energy efficient oriented moile learning that emphasizes energy saving awareness education" - 2013 ACS International Conference on Computer Systems and Applications (AICCSA) 5. Cynthia Twumasi, K.A.Dotche, W.Banuenumah, F.Sekyere, "Energy saving system using a PIR sensor for classroom monitoring" - 2017 IEEE PES PowerAfrica 6. Yu ShanEn, Peng Fan, Chen ZhangPing, Sun WeiHua, Zhao Peng, "Energy-saving system for classroom based on campus card" - The 27th Chinese Control and Decision Conference (2015 CCDC) 7. Huang Haijing, Chen Gang, "Study on Energy Saving Lighting of Classroom based on Cirtopic" - 2010 International Conference on Digital Manufacturing & Automation 	Authors:	W. Sylvia Lilly Jebarani, Santhosh G J, Suresh Krishnan B	Paper Title:	Conservation of Energy using Object Detection Model	29-33
Authors:	W. Sylvia Lilly Jebarani, Santhosh G J, Suresh Krishnan B					
Paper Title:	Conservation of Energy using Object Detection Model					
8.	<table border="1"> <tr> <td>Authors:</td> <td>Harikrishna Pydi, Allu Venkata Dattatreya Reddy, Chowdavarapu Jeevan Rupesh, Pothugunta Chandana, Chittamuru Bharath</td> </tr> <tr> <td>Paper Title:</td> <td>Sdn in Edge Computing Based on Penguin Foraging Behaviour</td> </tr> </table> <p>Abstract: Over the years usage of computational devices have been increased rapidly. 3G and 4G network evolution has helped in seamless usage of the modern devices. As the users are increasing rapidly and 4G spectrum is been congested way too fast. These situations resulted in development of 5G Spectrum by unlocking the millimetre waves. Milli meter Waves are originally shortrange waves and cannot be passed through heavy objects for these solution Small Base station concept has been implemented which provides high coverage and less latency while using. A small cell is basically a miniature base station that breaks up a cell site into much smaller pieces, and is a term that encompasses pico cells, micro cells, femto cells and can comprise of indoor/outdoor systems. For this implementation the SDN plays an important role for maintaining the connection between Base stations. Penguin foraging behaviour can be taken as a reference for the search</p>	Authors:	Harikrishna Pydi, Allu Venkata Dattatreya Reddy, Chowdavarapu Jeevan Rupesh, Pothugunta Chandana, Chittamuru Bharath	Paper Title:	Sdn in Edge Computing Based on Penguin Foraging Behaviour	34-37
Authors:	Harikrishna Pydi, Allu Venkata Dattatreya Reddy, Chowdavarapu Jeevan Rupesh, Pothugunta Chandana, Chittamuru Bharath					
Paper Title:	Sdn in Edge Computing Based on Penguin Foraging Behaviour					

algorithm in edge computing for getting faster results. Usually a penguin population comprises of several groups. Each group contains a number of penguins that varies depending on food availability in the corresponding foraging region. They feed as a team and follow their local guide which has fed on most food in the last dive. Similarly we follow the same process in small cell base station. Edge computing supports all devices simultaneous for processing and getting accurate results. They can be used for platform development for storage centric, server centric or even hybrid(storage-server) workloads.

Keywords: Edge computing, Software Defined Network, foraging behaviour, small cell base stations, Milli meter waves.

References:

1. T. Han, S. Li, Y. Zhong, Z. Bai and K. Kwak, "5G Software-Defined Heterogeneous Networks With Cooperation and Partial Connectivity," in IEEE Access, vol. 7, pp. 72577-72590, 2019.
2. C. Sonmez, A. Ozgovde and C. Ersoy, "EdgeCloudSim: An environment for performance evaluation of Edge Computing systems," 2017 Second International Conference on Fog and Mobile Edge Computing (FMEC), Valencia, 2017, pp. 39- 44.
3. H. Droste et al., "The METIS 5G Architecture: A Summary of METIS Work on 5G Architectures," 2015 IEEE 81st Vehicular Technology Conference (VTC Spring), Glasgow, 2015, pp. 1-5.
5. A. Wang, Z. Zha, Y. Guo and S. Chen, "Software-Defined Networking Enhanced Edge Computing: A Network-Centric Survey," in Proceedings of the IEEE, vol. 107, no. 8, pp. 1500-1519, Aug. 2019.
6. PeSOA: Penguins Search Optimisation Algorithm for Global Optimisation Problems.
7. X. Wei et al., "MVR: An Architecture for Computation Offloading in Mobile Edge Computing," 2017 IEEE International Conference on Edge Computing (EDGE), Honolulu, HI, 2017, pp. 232-235.
8. N. K. Giang, R. Lea, M. Blackstock and V.
9. C. M. Leung, "Fog at the Edge: Experiences Building an Edge Computing Platform," 2018 IEEE International Conference on Edge Computing (EDGE), San Francisco, CA, 2018, pp. 9-16.
10. K. Dolui and S. K. Datta, "Comparison of edge computing implementations: Fog computing, cloudlet and mobile edge computing," 2017 Global Internet of Things Summit (GloTS), Geneva, 2017, pp. 1-6.
11. R. Jain and S. Tata, "Cloud to Edge: Distributed Deployment of Process-Aware IoT Applications," 2017 IEEE International Conference on Edge Computing (EDGE), Honolulu, HI, 2017, pp. 182-189.
12. D. Loghini, L. Ramapantulu and Y. M. Teo, "Towards Analyzing the Performance of Hybrid Edge-Cloud Processing," 2019 IEEE International Conference on Edge Computing (EDGE), Milan, Italy, 2019, pp. 87-94.

Authors: Priyajit Sen, Monish Mukul Das, Debabrata Sarddar, Rajat Pandit

Paper Title: Handoff Control in Satellite Communication Applying Multi Billboard Manager Method

Abstract: LEO satellites play an important role in global communication system. LEO satellites have some advantages over GEO and MEO satellites, in respect of power requirement, end-to-end delay & more efficient frequency spectrum. But the main problem of LEO satellite, is that they have large relative speed than the speed of mobile nodes (MN) and earth, so that the handover occurrence is more. As a result, the call blocking probability (Pb) and force call termination probability (Pf) is higher. To overcome this problem, Billboard manager based handover (BMBHO) was introduced to reduce the scanning time significantly and also to reduce the Pf. But the main problem of single billboard manager (BM) is that, since all handover requests have to be processed from a single point. In this paper, we have proposed the concept of multi-billboard manager based handover (MBMHO) method to resolve this problem. Thus, handover request will be served more efficiently so that both Pb and Pf are minimized than the BMBHO method.

Keywords: Electromagnetic radiation, False handoff initiation, GPS (Global Positioning System), Handoff, MT (mobile terminals), Mobile IP, NGWS (Next-Generation Wireless Communication System).

9. **References:**

1. Debabrata Sarddar, Subhajit Chatterjee, Sougata Chakraborty, Pradipta Ghosh, Kunal Hui, Mrinal Kanti Naskar (2011), "A handover management in LEO satellite Network using Angular and Distance Based Algorithm", International Journal of Computer Applications, Volume 31- No. 5, pp. 0975-8887.
2. Papapetrou, E. and Pavlidou (2002), "QOS handover management in LEO/MEO satellite systems", Wireless Personal Communications, vol.24, no.2, Special Issue on Broadband Mobile Terrestrial-Satellite Integrated Systems, pp.189-204.
3. Re, E. Fantacci, D., R., and Giambene, G. (1999), "Handover queuing strategies with dynamic and fixed channel allocation techniques in low earth orbit mobile satellite systems", IEEE Transactions on Communications, vol. 47, no. 1, January 1999, pp. 89-102.
4. Tekinay, S. and Jabbari, B., (1991) "Handover and Channel Assignment in Mobile Cellular Networks", IEEE Comm. Mag., vol. 29, no. 11, 1991, pp. 42-46.
5. Xu, Y., Ding, Q., and Ko, C., (2000) "Elastic Handover scheme for leo satellite mobile communication systems" in IEEE Global Telecomm. Conf., San Francisco, CA, pp. 1161-1165.
6. Debabrata Sarddar, Kuntal Bhowmick, Uttam Kumar Kundu (2013), "Minimization Hand off Latency using Stack Based BMBHO Algorithm in LEO Satellite", International Journal of Research in Computer Applications & Information Technology, Volume 1, Issue 2, pp. 130-141.
7. Suman Kumar Sikdar, Soumaya Das, Debabrata Sarddar (2012), "Cost Analysis of Algorithm Based Billboard Manger Based Handover Method in LEO satellite Networks", International Journal of Advanced Computer Science and Applications, Vol. 3, No. 11, pp. 145-151.
8. Debabrata Sarddar, Priyajit Sen and Himadri Biswas (2016), "Handover Management in LEO Satellite Network using Area and Angle Based Algorithm", International Journal of Grid and Distributed Computing Vol. 9, No. 8, pp.45-54.

38-40

10. **Authors:** Vanshita Pansari, Amit Kumar Manjhvar

Paper Title: Fake Comments Detection with Sentiment Anatomy using Iterative Sequential Minimal Optimization Algorithm

Abstract: It is significant to create electronic stream markets, on stream communication networks, peer-to-peer functions, social media providers on stream and convenience customers. In reality, web based amenities are specially designed to overcome the risk of uncertainties & distrust inherent in the main concern of e-commerce applications & to increase the robustness of the system & resistance against fake clients & unbelievers. The aim of the E-commerce platform is, moreover, to embrace one of the most efficient methods for understanding and evaluating user attempts to expose fraudsters. Or else, the fundamental objective of e-commerce amenities to exploit the profit & purchase rate, will be endangered & deteriorated through fake and ill-intentioned users. Individuals and organizations need to detect fake Comments. With disappointing and hidden features, it is difficult to identify counterfeit Comments simply by looking at a single Comments text. It is also why it is a difficult task to identify falsified Comments. This paper uses the sentiment anatomy (SA) tool for the identification of fake Comments to analyze on stream film Comments. The texts and the SA system are used for a specific dataset of film Comments. We particularly compared the supervised SVM & SMO machine-learning process with the feeling classification methods of the analyzes in two different cases, without stopping phrases. Measured outcomes display that SMO process compared to the SVM process for both methods, & it arrives at the maximum precision not only in the classification of text but also for finding duplicate analyses.

Keywords: Data Mining, Reputation System, on stream Movie Comments, Machine Learning method, SMO, SVM, Sentimental Anatomy, Text Classification, Fake Comments Detection.

References:

1. Sadiq Hussain, "Survey on Current Trends and Techniques of Data Mining Research", London Journal of Research in Computer Science and Technology Volume 17 | Issue 1, 2017, pp. 7-16.
2. Ferry Hendriks, Kris Bubendorfer, and Ryan Chard, "Reputation Systems: A Exploration and Taxonomy", Journal of Parallel and Distributed Computing September 23, 2015, pp. 1-50.
3. P. Resnick, K. Kuwabara, R. Zeckhauser, E. Friedman, Reputation Systems, Communications of the ACM 43 (2000) 45-48.
4. P. Resnick, R. Zeckhauser, J. Swanson, K. Lockwood, The Value of Reputation on eBay: A Controlled Experiment, Experimental Economics 9(2003) 79-101.
5. H. Rahimi and H. El Bakkali. "A New Trust Reputation System for ECommerce Applications". In the proceedings of the International Journal of Computer Science Issues - IJCSI, 2014.
6. AISANGAM, "Sentiment Anatomy on E-commerce Products Comments System", blog, JUL 22, 2018.
7. Runa, D., Zhang, X., & Zhai, Y., "Try to Find Fake Comments with Semantic and Relational Discovery", 13th International Conference on Semantics, Knowledge, and Grids (SKG), 2017, pp. 234-239.
8. Yilmaz, C. M., & Durahim, A. O. (2018). SPR2EP: A Semi-Supervised Spam Comments Detection Framework. 2018 IEEE/ACM International Conference on Advances in Social Networks Anatomy and Mining (ASONAM), pp. 306-313.
9. Nandakishor Prabhu R and Asha Ashok (2018). Effect of Feature Reduction using Bigram Technique for detection of Forged Comments. 2018 International Conference on Advances in Computing, Communications, and Informatics (ICACCI), pp. 2481-2485.
10. Luo, N., Deng, H., Zhao, L., Liu, Y., Wang, X., & Tan, Z. (2017). Multi-Aspect Feature-Based Neural Network Model in Detecting Fake Comments. 2017 4th International Conference on Information Science and Control Engineering (ICISCE), pp. 475-479.
11. Guo, B., Wang, H., Yu, Z., & Sun, Y. (2017). Detecting Spammers in ECommerce Website via Spectrum Features of User Relation Graph. 2017 Fifth International Conference on Advanced Cloud and Big Data (CBD), pp. 324-327.
12. (Chauhan, S. K., Goel, A., Goel, P., Chauhan, A., & Gurve, M. K. (2017). Research on product Comments anatomy and spam Comments detection. 2017 4th International Conference on Signal Processing and Integrated Networks (SPIN), pp. 390-393.
13. Zhang, L., Yuan, Y., Wu, Z., & Cao, J. (2017). Semi-SGD: SemiSupervised Learning Based Spammer Group Detection in Product Comments. 2017 Fifth International Conference on Advanced Cloud and Big Data (CBD), pp. 368-373.
14. Elmurungi, E., & Gerbi, A., "An empirical research on detecting fake Comments using machine learning techniques", Seventh International Conference on Innovative Computing Technology (INTECH), 2017, pp. 107-114.
15. Ansari, G., Ahmad, T., & Doja, M. N. (2016). Comments ranking method for spam recognition. 2016 Ninth International Conference on Contemporary Computing (IC3), pp. 1-5.

41-46

11. Authors: Jyoti Neginal, Ruksar Fatima

Paper Title: Adaptive Steganography technique using DIDC Model

Abstract: Digital media emergence has taken the world by storm, further with the growth of digital media also causes the high risk of security and it needs to be addressed. Data security is protecting the data, normally data protecting is parted into two category i.e. cryptography and stenography. Steganography provides the high-level security by hiding one data under the other; the data can be image, text or any other formats, image steganography is one of the highly research area and several researcher have proposed different technique. The main challenge in image steganography is to innocuous image without any suspicion, furthermore the existing steganography focuses only on minimizing the distortion function. In this paper, we aim to develop an adaptive steganography technique named DIDC, which is basically based on the DPEs that approaching the rate transformation bound under the Steganography algorithm. Furthermore, the DIDC is evaluated by considering the two feature set SRM and max SRMd2 and error detection rate as the parameter, the comparison analysis shows that DIDC model outperforms not only state-of-art but also existing NFM model. Further, we also plot the AUC and the observation suggest the remarkable result.

47-55

Keywords: - Data hiding, Digital Steganography, rate transformation bound, DIDC, DPEs.

References:

1. Puech, William & Chaumont, Marc & Strauss, Olivier. (2008). A Reversible Data Hiding Method for Encrypted Images. Proceedings of SPIE - The International Society for Optical Engineering. 6819. 10.1117/12.766754.

2. al-hooti, Mohammed & Ahmad, Tohari & Djanali, Supeno. (2019). Developing audio data hiding scheme using random sample bits with logical operators. Indonesian Journal of Electrical Engineering and Computer Science. 13. 147-154. 10.11591/ijeecs.v13.i1.pp147-154.
3. J. Cox, J. Kilian, T. Leighton, and T. Shamoon, "Secure spread spectrum watermarking for multimedia," IEEE Trans. Image Process., vol. 6, no. 12, pp. 1673–1687, Dec. 1997.
4. Ma, Qiaomei & Wu, Lijun & Du, Jianhong & Chen, Gouxi & Yang, Qiuxiang. (2014). An Adaptive All-odd transformation Watermark Scheme. TELKOMNIKA Indonesian Journal of Electrical Engineering. 12. 10.11591/telkomnika.v12i5.4228.
5. B. Chen and G. W. Wornell, "Quantization index modulation: a class of provably good methods for digital watermarking and information embedding," IEEE Trans. Inf. Theory, vol. 47, no. 4, pp. 1423–1443, May 2001.
6. Din, Roshidi & Mohd Sabri, Raihan & Mustapha, Aida & Utama, Sunariya. (2016). A Comparative Review on Data Hiding Schemes.
7. Ming Li, Yang Li, Histogram Shifting in encrypted images with public key cryptosystem for reversible data hiding, Signal Processing 130(2017) 190-196.
8. X.Zhang,J.Wang, H. Cheng, Lossless and Reversible Data Hiding in Encrypted Images with Public key cryptography , IEEE Trans. Circuits Syst. Video Technology (2015) , <http://dx.doi.org/10.1109/TCSVT.2015.2433194>.
9. Zhang, X.P.; Wang, S.Z. Efficient steganographic embedding by exploiting modification direction.IEEE Commun. Lett. 2006, 10, 781–783.
10. Khan, Sahib. (2018). Ant Colony Optimization (ACO) based Data Hiding in Image Complex Region. International Journal of Electrical and Computer Engineering. 8. 10.11591/ijece.v8i1.pp379-389.
11. Youssef Taouil and El Bachir Ameer, Steganographic Scheme Based on Message-Cover matching, International Journal of Electrical and Computer Engineering (IJECE), Vol. 8, No. 5, October 2018, pp. 3594 – 3603.
12. Canny, J. A computational approach to edge detection. IEEE Trans. Pattern Anal. Mach. Intell. 1986, 8,679–698.
13. Kanungo, T.; Mount, D.M.; Netanyahu, N.S.; Piatko, C.D.; Silverman, R.; Wu, A.Y. An efficient k-means clustering algorithm: Analysis and implementation. IEEE Trans. Pattern Anal. Mach. Intell. 2002, 24, 881–892.23.
14. Gray, R.M. Vector quantization. IEEE Assp Mag. 1984, 1, 4–29.
15. Kim, T. Side match and overlap match vector quantizers for images. IEEE Trans. Image Process. 1992, 1,170–185.
16. Emy Setyaningsih1, Agus Harjoko2, Survey of Hybrid Image Compression Techniques, International Journal of Electrical and Computer Engineering (IJECE), Vol. 7, No. 4, August 2017, pp. 2206–2214, ISSN: 2088-8708, DOI: 10.11591/ijece.v7i4.pp2206-2214.
17. Wu, X.; Sun,W. Robust copyright protection scheme for digital images using overlapping DCT and SVD. Appl. Soft Comput. 2013, 13, 1170–1182.
18. Chan, Y.K.; Chen, W.T.; Yu, S.S.; Ho, Y.A.; Tsai, C.S.; Chu, Y.P. A HDWT-based reversible data hiding method. J. Syst. Softw. 2009, 82, 411–421.
19. X. Zhang, "Reversible data hiding in encrypted image," IEEE Signal Process. Lett., vol. 18, no. 4, pp. 255–258, Apr. 2011.
20. Z. Qian, X. Han, and X. Zhang, "Separable reversible data hiding in encrypted images by n-nary histogram modification," in Proc. 3rdInt. Conf. Multimedia Technol. (ICMT), Guangzhou, China, 2013, pp. 869–876.
21. Zhenxing Qian, and Xinpeng Zhang, "Reversible data hiding in encrypted images with distributed source encoding," IEEE Transactions on Circuits and Systems for Video Technology, vol. 26, no. 4,pp. 636-646 April 2016.
22. W. Liu, W. Zeng, L. Dong, and Q. Yao, "Efficient compression of encrypted grayscale images," IEEE Trans. Image Process., vol. 19, no. 4, pp. 1097–1102, Apr. 2010.
23. K. Ma, W. Zhang, X. Zhao, N. Yu, and F. Li, "Reversible data hiding in encrypted images by reserving room before encryption," IEEE Trans. Inf. Forensics Security, vol. 8, no. 3, pp. 553–562, Mar. 2013.
24. J. Tian, "Reversible data embedding using a difference expansion," IEEE Trans. Circuits Syst. Video Technol., vol. 13, no. 8, pp. 890–896, Aug. 2003.
25. W. Liu, W Zeng, L. Dong, and Q. Yao, "Efficient compression of encrypted grayscale images, IEEETrans. ImageProcess" vol.19,no.4, pp. 1097–1102, Apr. 2010.
26. Pramod R Sonawane, K.B .Chaudhari, "Reversible image watermarking using adaptive prediction error expansion and pixel selection" International Journal Of Engineering Science And Innovative Technology (Ijesit) , Volume 2, Issue 2, March 2013.
27. T. Pevn'ý, T. Filler, and P. Bas, "Using high-dimensional image models to perform highly undetectable steganography," in Proc. Int. Workshop Inf. Hiding, 2010, pp. 161–177.
28. V. Holub and J. Fridrich, "Digital image steganography using universal distortion," in Proc. 1st ACM Workshop Inf. Hiding Multimedia Secure., 2013, pp. 59–68.
29. V. Holub and J. Fridrich, "Designing steganographic distortion using directional filters," in Proc. IEEE Int. Workshop Inf. Forensics Secur., 2012, pp. 234–239.
30. V. Sedighi, R. Cogranné, and J. Fridrich, "Content-adaptive steganography by minimizing statistical detectability," IEEE Trans. Inf. Forensics Secur., vol. 11, no. 2, pp. 221–234, Feb. 2016.
31. B. Li, M. Wang, J. Huang, and X. Li, "A new cost function for spatial image steganography," in Proc. IEEE Int. Conf. Image Process., 2014, pp. 4206–4210.
32. D. Hu, H. Xu, Z. Ma, S. Zheng and B. Li, "A Spatial Image Steganography Method Based on Nonnegative Matrix Factorization," in IEEE Signal Processing Letters, vol. 25, no. 9, pp. 1364-1368, Sept. 2018. doi: 10.1109/LSP.2018.2856630.
33. P. Bas, T. Filler, and T. Pevn'ý, "Break our steganographic system: The ins and outs of organizing BOSS," in Proc. Int. Workshop Inf. Hiding, 2011, pp. 59–70.
34. T. Denemark, V. Sedighi, V. Holub, R. Cogranné, and J. Fridrich, "Selection-channel-aware rich model for steganalysis of digital images," in Proc. IEEE Int. Workshop Inf. Forensics Secur., 2014, pp. 48–53.
35. J. Fridrich and J. Kodovsky, "Rich models for steganalysis of digital images," IEEE Trans. Inf. Forensics Secur., vol. 7, no. 3, pp. 868–882, Jun. 2012.

12.

Authors:

Nayana R Shenoy, Anand Jatti

Paper Title:

Segmentation of Thyroid Nodules using Improvised U-Net Architecture

Abstract: Thyroid nodules are considered as most common disease found in adults and thyroid cancer has increased over the years rapidly. Further automatic segmentation for ultrasound image is quite difficult due to the image poor quality, hence several researcher have focused and observed that U-Net achieves significant performance in medical image segmentation. However U-net faces the problem of low resolution which causes smoothness in image, hence in this research work we have proposed improvised U-Net which helps in achieving the better performance. The main aim of this research work is to achieve the probable Region of Interest through segmentation with better efficiency. In order to achieve that Improvised U-Net develops two distinctive feature map i.e. High level feature Map and low level feature map to avoid the problem of low resolution. Further proposed model is evaluated considering the standard dataset based on performance metrics such as Dice Coefficient and True positive Rate. Moreover our model achieves better performance than the existing model.

56-60

Keywords: thyroid cancer, segmentation, Improvised U-Net, ROI.

References:

1. M. Schlumberger, M. Tahara, L. J. Wirth, B. Robinson, M. S. Brose, R. Elisei, M. A. Habra, K. Newbold, M. H. Shah, A. O. Hoff, et al., "Lenvatinib versus placebo in radioiodine-refractory thyroid cancer," *New England Journal of Medicine*, vol. 372, no. 7, pp. 621–630, 2015.
2. A.G. Unnikrishnan , U.V. Menon , Thyroid disorders in India: an epidemiological perspective, *Ind. J. Endocrinol. Metab.* 15 (2011) 78– 81 .
3. S. L. Bridal, J.-M. Correas, A. Saied, and P. Laugier, "Milestones on the road to higher resolution, quantitative, and functional ultrasonic imaging," *Proc. IEEE*, vol. 91, no. 10, pp. 1543–1561, Oct. 2003.
4. S.V.B. Jardim , M.A.T. Figueiredo , Automatic contour estimation in fetal ultra- sound images, in: *Proceedings of International Conference on Image Process- ing*, 2003, pp. 1065–1068 .
5. C.-Y. Chang , Y.-F. Lei , C.-H. Tseng , S.-R. Shih , Thyroid segmentation and vol- ume estimation in ultrasound images, *IEEE Trans. Biomed. Eng.* 57 (6) (2010) 1348–1357
6. T. Loupas , W.N. McDicken , P.L. Allan , An adaptive weighted median filter for speckle suppression in medical ultrasonic images, *IEEE Trans. Circuit Syst.* 36 (1) (1989) 129–135 .
7. D. Selvathi , V.S. Sharnitha , Thyroid classification and segmentation in ultra- sound images using machine learning algorithms, in: *Proceedings of Interna- tional Conference on Signal Processing, Communication, Computing and Net- working Technologies*, 2011, pp. 836–841 .
8. H. Garg , A. Jindal , Segmentation of thyroid gland in ultrasound image using neural network, in: *Proceedings of International Conference on Computing, Communications and Networking Technologies*, 2013, pp. 1–5.
9. P. Poudel , A. Illanes , C. Hansen , M. Friebe , Evaluation of commonly used al- gorithms for thyroid ultrasound images segmentation and improvement using machine learning approaches, *J. Healthcare Eng.* 2018 (2018) 1–13 .
10. L. Pedraza, C. Vargas, F. Narv'aez, O. Dur'an, E. Mu'noz, and E. Romero, "An open access thyroid ultrasound-image database," in *Proceedings of the 10th International Symposium on Medical Information Processing and Analysis*, vol. 9287, Cartagena de Indias, Colombia, 2015.
11. S. Poonguzhali and G. Ravindran, "A complete automatic region growing method for segmentation of masses on ultrasound images," in *Proceedings of the 2006 International Conference on Biomedical and Pharmaceutical Engineering, ICBPE 2006*, pp. 88–92, 2006.
12. [40] M. M. Abdelsamea, G. Gnecco, and M. M. Gaber, "A SOMbased Chan-Vesemodel for unsupervised image segmentation," *Soft Computing*, vol. 21, no. 8, pp. 2047–2067, 2017.
13. D. Koundal, S. Gupta, and S. Singh, "Computer aided thyroid nodule detection system using medical ultrasound images," *Biomedical Signal Processing and Control*, vol. 40, pp. 117–130, 2018.
14. Haji, Salih & Yousif, Raghad. (2019). A Novel Neutrosophic Method for Automatic Seed Point Selection in Thyroid Nodule Images. *BioMed Research International*. 2019. 1-14. 10.1155/2019/7632308.

Authors: P. I. Silva Medina, J. Mejías Brito, J. F. Tejeda Castrejón, C. L. Castrejón Cerro, O. Lúa Madrigal

Paper Title: Characterization of a computer tool for Industrial Security Management in MSME's

Abstract: In the present work, a study is carried out on companies in the state of Colima with the purpose of compiling the characteristics that must be contained in a computer tool capable of facilitating the administration of industrial safety. With the design characteristics detected, it is intended to establish the basis for an automation proposal that benefits Micro, Small & Medium Enterprises with a tool tailored to the normative, procedural and operational reality of the Mexican environment, so that its extrapolation to the rest of the country is totally feasible since the regulatory framework of reference is federal and the legal implications to which its application impacts apply throughout the national territory.

Keywords: Health and Safety, Information Technology, MSME's, Security Management.

References:

1. G. A. Anaya, "Diagnóstico de seguridad e higiene del trabajo listados de verificación basados en la normatividad mexicana," *e-Gnosis*, vol. 4, no. 3, pp. 1-15, 2006.
2. G. Céspedes and J. M. Martínez, "Un análisis de la seguridad y salud en el trabajo en el sistema empresarial cubano," *Revista latinoamericana de derecho social*, vol. 22, pp. 10-20, 2016.
3. M. García, "Los macro-procesos: un nuevo enfoque en el estudio de la Gestión Humana," *Pensamiento y gestión: revista de la División de Ciencias Administrativas de la Universidad del Norte*, vol. 27, pp. 162-200, 2009.
4. Grupo BFX. (2016) Preguntas Frecuentes sobre PYMES. Accessed January 2020. [Online]. Available: <http://www.ideasparapymes.com/preguntasfrecuentes.dbsp>
5. C. López and A. M. Ovalle, (2016). "Nivel de implementación del sistema de gestión en seguridad y salud en el trabajo, en las empresas del sector metal-mecánico de la región centro sur de Caldas-Colombia," *Ingeniería y Competividad*, vol. 18, no. 1, pp. 91-102, 2016.
6. Pro México. (2014). PROMEXICO. Accessed January 2020. [Online]. Available: <http://www.promexico.gob.mx/>
7. L. Robson, G. Gray, D. Van Eerd and P. L. Bigelow, "A descriptive study of the OHS management auditing methods used by public sector organizations conducting audits of workplaces: Implications for audit reliability and validity," *Safety Science*, vol. 50, no. 2, pp. 181-189, 2012.
8. E. Rodríguez, Protección de la seguridad y salud de los trabajadores. Una revisión desde la perspectiva global, latinoamericana y venezolana. *Ingeniería Industrial. Actualidad y Nuevas Tendencias*, vol. 2, no. 5, pp. 81-96, 2010.
9. Secretaría del Trabajo y Previsión Social (STPS.) (2014). Información sobre Accidentes y Enfermedades de Trabajo Nacional [Autogestión en Seguridad y Salud en el Trabajo]. Accessed Dec 2019. [Online]. Available: <http://stps.gob.mx>
10. Secretaría del Trabajo y Previsión Social (STPS). (2015). Guía ECNSST. Accessed Dec 2019. [Online]. Available: <http://autogestion.stps.gob.mx:8162/pdf/Gu%C3%ADa%20ECNSST.pdf>
11. M. A. Ulloa, "Riesgos del Trabajo en el Sistema de Gestión de Calidad," *Ingeniería Industrial*, vol. 33, no. 2, pp. 100-111, 2012.
12. P. I. Silva, "La auto gestión de la seguridad industrial en las PYMES," *Revista Digital Universitaria*, vol. 2, pp. 1-26, 2017.
13. INEGI. (2014). Directorio Nacional Estadístico de Unidades Económicas. <http://www.beta.inegi.org.mx/app/mapa/denu/>

13.

61-65

Authors: Shefali Jumrani, Shraddha Agrawal, Samiksha Verma, Swasti Singhal

14.	Paper Title:	Use of Machine Learning Models in Sales Forecasts	66-69
	<p>Abstract: In this paper, we present a brief survey of usage of various machine learning models and their role in retail sales forecasts. The purpose of this paper is to enlist a few popular approaches in retail sales and study their scope and areas of application. We analyze how these models have evolved over time stating the significance of each model in brief.</p> <p>Keywords: autoregressive integrated moving average, artificial neural network, random forests, retail sales forecasting, support vector regression.</p> <p>References:</p> <ol style="list-style-type: none"> 1. C. Giri, S. Thomassey, J. Balkow and X. Zeng, "Forecasting New Apparel Sales Using Deep Learning and Nonlinear Neural Network Regression" International Conference on Engineering, Science, and Industrial Applications (ICESI),2019. 2. C.J. Lu, T.S. Lee, C.M. Lian, "Sales Forecasting of IT Products using A Hybrid MARS and SVR Model", IEEE International Conference on Data Mining Workshops. doi:10.1109/icdmw.2010. 3. V. Jakkula, "Tutorial on Support Vector Machine (SVM)," School of EECS, Washington State University, Pullman 99164. 4. S.B. Kashia, H.R. Karimic , K.D. Thobenb, M. Lütjenb and M. Teuckeb, "A survey on retail sales forecasting and prediction in fashion markets," Systems Science & Control Engineering, Vol. 3, 154–161,2015. 5. Z. Duan, Y. Liu and K. Huang, "Mobile Phone Sales Forecast Based on Support Vector Machine," IOP Conf. Series: Journal of Physics: Conf. Series 1229 (2019) 012061,2019. 6. K.B. Kahn, "Solving the problems of new product forecasting. Business Horizons," 57(5), 607–615. Retrieved August 13, 2014,. 7. H. Lee, S. G. Kim, H-w. Park, & P. Kang, "Pre-launch new product demand forecasting using the Bass model: A statistical and machine learning-based approach," Technological Forecasting and Social Change, 86, 49–64. Retrieved August 12, 2014. 8. S. Vhatkara , J. Diasb, "Oral-Care Goods Sales Forecasting Using Artificial Neural Network Model", 7th International Conference on Communication, Computing and Virtualization 2016. 9. M. Teucke, A. Ait-Alla, N. El-Berishy, S. Beheshti-Kashi, & M. Lütjen, "A sales forecasting model for newreleased and nonlinear sales trend products," Expert Systems with Applications, 37(11), 7387–7393. Retrieved July 28, 2014. 10. H-K Lee , H-J Lee , J. Park , J. Choi and J-B Kim, "A Study of Predict Sales Based on Random Forest Classification", International Journal of u- and e- Service, Science and Technology Vol.10, No.7 (2017). 11. M. Kumar, M. Thenmozhi, "Forecasting stock index returns using ARIMA-SVM, ARIMA-ANN, and ARIMA-random forest hybrid models", Int. J. Banking, Accounting and Finance, Vol. 5, No. 3, 2014. 12. G. Biau , " Analysis of a Random Forests Model", Journal of Machine Learning Research 13 (2012) 1063-1095. 13. S. A. Kustrin, R. Beresford, "Basic concepts of artificial neural network (ANN) modeling and its application in pharmaceutical research", Journal of Pharmaceutical and Biomedical Analysis 22 (2000) 717-727. 14. P. M. Pawar, B. P. Ronge R. Balasubramaniam, A. S. Vibhute, S. S. Apte, "TechnoSocietal 2018", Proceedings of the 2nd International Conference on Advanced Technologies for Societal Applications - Volume 2, 2018. 15. K.J. Kim, "Financial time series forecasting using support vector machines", Neurocomputing, Vol. 55, pp.307 –319, 2003. 		
15.	Authors:	Manjari Jain, Sagar, Saravanan K	70-78
	<p>Paper Title:</p> <p>Abstract: Automated Teller Machines (ATMs) have become an essential part of the individual's daily routine as it is utilized to change one's existing ATM Personal Identification Number (PIN), check one's amount balance and its most important function is to extract one's money. Nowadays, the culprits have the latest technologies at their disposal, which aids them, to easily hack into the secured systems of the banks and collect the confidential information of the clients such as their ATM PINs, Card Details, etc., To counter that, fingerprint sensing incorporated with One Time Passwords (OTPs) has been suggested, as it is globally accepted that the fingerprints of every person are unique and different, while OTPs don't hold its value like ATM PINs. This research is based on using Python Graphical User Interface (GUI) as the ATM screen. The innovation in this study exists in two ways. The first one is that OTPs will be sent via Python Graphical User Interface (GUI), on the client's registered email address also (along with the client's recorded phone number), so that OTPs can still be accessed in case of Subscriber Identity Modules (SIMs) lost. The second one is that including a Uniform Resource Allocator (URL: www.msbank.co.in) for online enrollments of the clients and producing Application Program Interfaces (APIs). The main idea is to first check the client's fingerprints and then to verify the OTPs from our Admin-Password Protected Mongo Database. The involved algorithm also maintains a check that the same email address cannot be utilized again for registration.</p> <p>Keywords: APIs, Fingerprint, MongoDB Python GUI.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Kavitha Hooda, International Journal of Scientific and Research Publications, Volume 6, Issue 4, April 2016, "ATM Security", pp-1. 2. Mithun Dutta, Kangkhita Keam Psyche and Shamima Yasmin, American Journal of Engineering Research (AJER), Volume 6, Issue 8, August 2017, "ATM Transaction Security Using Fingerprint Recognition", pp-41-45. 3. Zhao F., Tang, X., The Journal of the Patter Recognition Society, Volume 40, Issue 4, April 2007, "Preprocessing and postprocessing for skeleton-based fingerprint minutiae extraction", pp-1270-1281. 4. F. A. Afsar, M. Arif and M. Hussain, National Conference on Emerging Technologies, 2004, "Fingerprint Identification and Verification System using Minutiae Matching", pp-141-146. 5. Hmadri nath maoullick, Joyjit Patra, Arun Kanti Manna, International Journal of Engineering Inventions, Volume 3, Issue 1, August 2013, "Computer Assisted and Contour Detection in Medial Image Using Fuzzy Logic", pp-1-7. 6. Frimpong Twum, Kofi Nti, Michael Asante, International Journal of Science and Engineering Applications, Volume 5, Issue 3, May 2016, "Improving Security Levels in Automatic Teller Machines (ATM) Using Multifactor Authentication, pp-503. 7. Sanjay S. G., International Journal of Engineering and Computer Science, 2014, "ATM Transaction Security System Using Biometric Palm Print Recognition and Transaction Confirmation System", pp-5332-5335. 	Smart Secured Wireless ATM using Finger Print Recognition	

8. Lalzirtira, National Institute of Technology Rourkela M. Tech Thesis, 2013, "Graphical User Authentication, India".
9. Anand D. A., Dinesh G. and Naveen H. D., International Journal of Communication and Computer Technologies (IJ CCT), 2013, "A Reliable ATM Protocol and Comparative Analysis on Various Parameters with other ATM Protocols", pp-192-197.
10. Saropourian, B., ICCSIT, 2009, 2nd IEEE International Conference, 2009, "A new approach of finger-print recognition based on neural network", pp-158-161.
11. Ratha, N., Connel, J. & Bolle, R., IBM Systems Journal, Volume 40, No. 3, 2001, "Enhancing Security and Privacy in Biometrics-based Authentication Systems", pp-614-634.
12. Sowmya Ravikumar, Sandhya Vaidyanathan, B. Thamocharan, S. Ramakrishnan, International Journal of Engineering and Technology, Volume 5, No. 3, 2013, "A new business model for ATM transactions security using fingerprint recognition".
13. Petric, Ronald and Christoph Sorge, IET Information Security, Volume 8, Issue 2, 2013, "Establishing user trust in automated teller machine integrity", pp-132-139.
14. Myo, N., International Conference on Education Technology and Computer, 2009, "Fingerprint Identification based on the Model of the Outer Layers of Polygon Subtraction", pp-201-204.
15. Journal for Research, Volume 2, Issue 12, February 2017.
16. Ms. Archana S. Shinde and Prof. Varsha Bendre, 2015 International Conference on Computing Communication Control and Automation, 2015, "An Embedded Fingerprint Authentication System", pp-45.
17. Jun Zhou, Guangda Sua, Chun hongJiang, Neurocomputing, 70, 2007, "A face and fingerprint identity authentication based on multi-route detection", pp-922-931.
18. Yuliang He, Jie Tian, Xiping Luo, Tanghui Zhang, Pattern Recognition, Letters 24, 2003, "Image enhancement and minutiae matching in fingerprint verification", pp-1349-1360.
19. Wei Wang Jianwei Li, Feifei Huang, Hailiang Feng, Pattern Recognition, Letters 29, 2008, "Design and implementation of Log-Gabor filter in fingerprint image enhancement", pp-301-308.
20. Lin Hong, Wan Yifei, Anil Jain, IEEE Transaction on patten Analysis and Machine intelligence, Volume 20, Issue 8, 1998, "Fingerprint image enhancement: algorithm and performance evaluation", pp-777-789.
21. Der Chin Chen, Biometric Systems, Design and Applications, 2011, "Portable Biometric System of High Sensitivity Absorption Detection".
22. Subra Mazumdar, Venkata Dhulipala, San Diego, "Biometric Security Using Finger Print Recognition".
23. S.M. Shamsheer Daula, Dr. K.E. Sreenivasa Murthy, International Journal of Advanced and Innovative Research, Volume 1, Issue 2, July 2012, "An Embedded ATM Security Design Using ARM Processor with Fingerprint recognition and GSM".
24. Steve Furber, ARM System-on-Chip Architecture, Second Edition, 2000, ISBN 0-201-67519-6.
25. Anil K. Jain, Jianjiang Feng, Karthik Nandakumar, IEEE Computer Society 2010, 0018-962/10, "Fingerprint Matching", pp-36-44.

16.	Authors:	Siddhartha Sen, Sunil Karforma, Sripathi Mukhopadhyay
	Paper Title:	EPR-Chain: A Blockchain-based Electronic Property Records Framework in E-Governance

Abstract: In recent years, blockchain have become a prime focus of research due to its potential to impact various industries. E-Governance sector may also take huge advantage of blockchain technology exploiting its distributed and immutable ledger in the area of security, confidentiality and decentralization. The Electronic Property Record (EPR) systems of government also have challenges regarding data security, integrity, secure storage of data and effective service delivery. In this paper, we discuss how blockchain technology can effectively be used to transform E-Governance and may resolve the issues. We propose a smart contract based permissioned blockchain framework, named EPR-Chain which may be used for the implementation of blockchain technology in E-Governance sector for Electronic Property Registration. The objective of our proposed framework is firstly to implement smart contract for effective service delivery and secondly to ensure secure storage of electronic records by defining access rules for the stakeholders of the proposed framework. Moreover, this framework also addresses issues of sharing information with other external agencies for verification of property information.

Keywords: Blockchain, smart contract, transaction ledger, decentralization, framework, electronic property record.

References:

1. S. Nakamoto, "Bitcoin: A peer-to-peer electronic cash system," J. Gen. Philosophy Sci., vol. 39, no. 1, pp. 53-67, 2008
2. R. C. Merkle, "Protocols for public key cryptosystems", in Proc. DBLP, Oakland, CA, USA, Apr. 1980, pp. 122-134.
3. M. Szydlo, "Merkle tree traversal in log space and time," in Advances in Cryptology EUROCRYPT. Berlin, Germany: Springer, 2004, pp.541-554.
4. W. Yang et al., "Survey on Blockchain-Based Internet Service Architecture: Requirements, Challenges, Trends, and Future", IEEE, Access, vol.7,2019, pp.75845-74872
5. E. Chukwu, L. Garg, "Systematic Review of Blockchain in Healthcare: Frameworks, Prototypes, and Implementations", IEEE, Access, vol.8,2020, pp.21196-21214
6. Y. Yuan and F.-Y. Wang, "Blockchain and cryptocurrencies: Model, techniques, and applications," IEEE Trans. Syst., Man, Cybern. Syst., vol. 48, no. 9, pp. 1421-1428, Sep. 2018
7. X. Xu et al., "The blockchain as a software connector," in Proc. 13th Working IEEE/IFIP Conf. Softw. Archit. (WICSA), 2016, pp. 182-191.
8. N. Szabo. (1996), "Smart Contracts: Building Blocks for Digital Markets". [Online]. Available: http://www.fon.hum.uva.nl/rob/Courses/InformationInSpeech/CDROM/Literature/LOTwinterschool2006/szabo.best.vwh.net/smart_contracts_2.html
9. J. Stark, "Making Sense of Blockchain Smart Contracts", 2016. [Online]. Available: <https://www.coindesk.com/making-sense-smart-contracts/>
10. Dale A. Whitman, "Are We There Yet? The Case for A Uniform Electronic Recording Act", 2002, 24 W. New Eng. L. Rev. 245, 246
11. Dean Arthur R Gaudio, "Electronic Real Estate Records: A Model for Action",2002, 24 W. New Eng. L. Rev. 271
12. Maksymilian Ewendt, "Leveraging Blockchain Technology in Property Records: Establishing Trust in a Risk-Filled Market" 2018, 19 N.C. J.L. & Tech. 99
13. Balaji S., "Blockchain based Secure Smart Property Registration Management System and Smart Property Cards", IJRASET, Volume 7 Issue VI, June 2019
14. Joshi S.M., Rajeswari K. (2020) "Efficient and Accurate Property Title Retrieval Using Ethereum Blockchain" In: Karrupusamy P., Chen J., Shi Y. (eds) Sustainable Communication Networks and Application. ICSCN 2019. Lecture Notes on Data

Authors: Nataliya Lytvynenko, Olexander Myasishev, Serhii Lienkov, Yuriy Husak, Ivan Starynskiy

Paper Title: Designing of the Aero Video Intelligence on the STM32H Microcontrollers Basis

Abstract: The practical possibility of using the flying wing as an aero video intelligence is being considered. In this regard, an experimental sample was built with a wingspan of 1000 mm and a flight weight of up to 500 g, on that the SPRacingF3 Acro flight controller was installed on the basis of the STM32F303 microcontroller with a GPS receiver and a course video camera for FTP flights. Based on the INAV firmware, the main attention was paid to setting the flight modes NAV RTH, NAV FAILSAFE to ensure the guaranteed return of the wing to its launch zone in case of the radio communication loss with the video camera or control panel. The microOSD board has been configured for the possibility of the overlaying telemetry data on the images, that received on the monitor from the course camera. The setup and testing of the semi-automatic launch of the NAV LAUNCH flying wing was carried out, that greatly facilitated the start of the wing in windy weather and from the small areas. It has been practically shown that the flight time was about 40 minutes at an average speed of 40-45km/h with the 5x3 inch three-blade propeller on the three Sony / Murata US18650VTC5 rechargeable batteries with the capacity of 2600 mah.

Keywords: SPRacingF3, MicroOSD, INAV, GPS receiver, FPV, STM32F, NEO-6M-0-001, ESC controller, MWOSD, Failsafe, Ardupilot.

References:

1. First Person View (FPV). Available at: [https://ru.wikipedia.org/wiki/First_Person_View_\(FPV\)](https://ru.wikipedia.org/wiki/First_Person_View_(FPV)).
2. FRISKY TARANIS VS SPEKTRUM DX6I Radio Transmitter TX. Available at: <https://oscarliang.com/choose-radio-transmitter-taranis-spektrum-dx6i/>.
3. FRISKY R9. Available at: <https://www.frsky-rc.com/product/r9m-2019/>.
4. New ZOHD Dart250G 570mm Wingspan Sub-250 grams Sweep Forward Wing AIO EPP FPV RC Airp. Available at: <https://www.rcgroups.com/forums/showthread.php?3428119-New-ZOHD-Dart250G-570mm-Wingspan-Sub-250-grams-Sweep-Forward-Wing-AIO-EPP-FPV-RC-Airp>.
5. N. Lytvynenko, S. Lienkov, O. Lytvynenko, O. Banzak, H. Banzak, "Development of Geoinformation Technology for Monitoring Events on the Basis of Data from Unstructured Web Resource Text", Bhopal, IJITEE Journal, Vol. 9, Is. 5, 2020, pp. 1160-1165.
6. O. Myasishev, "Construction of UAVs Based on the Flight Controller APM 2.6", Khmel'nitsky, Visnyk KhNU, Vol. 5, 2016, pp. 225-230.
7. O. Myasishev, "CC3D Flight Controller Features with INAV Firmware", Khmel'nitsky, Visnyk KhNU, Vol. 1, 2019, pp. 129-136.
8. FPV DRONE FLIGHT CONTROLLER EXPLAINED. Available at: <https://oscarliang.com/flight-controller-explained/>.
9. The Basics of Getting INAV Working on an Airplane. Available at: <https://github.com/iNavFlight/inav/wiki/Fixed-wing-guide>.
10. Navigation modes. Available at: <https://github.com/iNavFlight/inav/wiki/Navigation-modes>.
11. Failsafe. Available at: <https://github.com/iNavFlight/inav/blob/master/docs/Failsafe.md>.
12. Seriously Pro Racing F3. Available at: https://multicopterwiki.ru/index.php/Seriously_Pro_Racing_F3.
13. INAV Configurator 2.4.1. Available at: <https://github.com/iNavFlight/inav-configurator/releases>.
14. Sensor calibration. Available at: <https://github.com/iNavFlight/inav/wiki/Sensor-calibration>.
15. Quick Set Up Failsafe for APM with Flysky-i6 Setup Arducopter failsafe. Available at: <https://www.youtube.com/watch?v=aZ1A5rAK0uo&t=127s>.
16. Minim OSD Quick Installation Guide. Available at: <https://ardupilot.org/copter/docs/common-minim-osd-quick-installation-guide.html>.
17. Introduction to MWOSD. Available at: <http://www.mwosd.com>.

88-93

17.

18. Authors: Dmitry Dubinin, Vadim Denisov, Alexander Mescheryakov

Paper Title: Algorithm for Eliminating of the Limiting Disambiguation of Measurement Made by Phase Radio Direction Finders by Sorting Out the Abnormally Large Errors

Abstract: The aim of the article is to find the upper probability limit of the measurement results to correct disambiguation in case of multi-base phase direction finders, where all bases are ambiguous. Direction finding is done using the maximum likelihood method based on a set of measured phase differences and an algorithm of rejecting (erasing) abnormally large measurement errors. The theoretical background of the article is the maximum likelihood method applied to disambiguate results of the phase measurements in multi-base measuring systems. The physical meaning of the method is that if the disambiguation process is correct, the results of angular measurements for each base are grouped around the true value of bearing. The mathematical background of the article are methods of linear algebra based on the geometric interpretation of disambiguation measurement results. We obtained formulas for calculating upper bounds for the probability correct disambiguation of measurement results, which are applicable to direction finders with linear, planar and conformal antenna arrays. The obtained theoretical relations are exemplified by a numerical calculation of error probability including the upper bounds for a specific three-base direction finder 'bad' measurement results. The calculations proved effectiveness of the proposed algorithm, which depends on the accuracy of phase measurements. The proposed algorithm is applicable not only in case of the direction finders, but also for other multi-base phase measurements. The work may be interesting for designers of direction finders in terms of achievable accuracy of measurement results even if some of the results are rejected.

Keywords: ambiguity vector, antenna array, bearing estimation, likelihood function, multibase phase direction finder

94-100

References:

1. S.E. Lipsky, *Microwave Passive Direction Finding*, SciTech Publishing, Raleigh NC, 2004.
2. M. I. Skolnik: *A Reference Book on Radioelectronics*. Ch.1, Technosfera Publ., Moscow, 2014.
3. V.P. Denisov, D.V. Dubinin, *Phase Radio Direction Finders*. A Monograph, TUSUR Publ., Tomsk, 2002.
4. W. Wirth, *Radar Techniques Using Array Antennas*, The Institution of Engineering and Technology Publ., London, UK, 2008. 470 p.
5. V.P. Denisov, On the Potential Accuracy of a Phase Direction Finder with a Linear Array Antenna, *Radio engineering & electronic physics* Vol. 23, No. 8, August 1978, pp. 54-60.
6. A.N. Armizonov, Application of maximum likelihood method to the processing of signals in phase direction finders with planar antenna arrays, *Journal of Communications Technology and Electronics* Vol. 40, No. 7, 1995, pp. 99-105.
7. V.P. Denisov, Maximum likelihood Disambiguation of Multi-Scale Phase Measurements, *Izvesiya vuzov, Radioelectronica Journal*, Vol. 20, No. 7, 1977, pp. 63-66.
8. V.I. Belov, On the choice of Periods and Duration of Impulses for the Process of Disambiguation in Multi-Scale Phase-Measuring System, *Radiotekhnika electronica Journal*, Vol. 23, No. 10, 1978, pp. 2225-2227.
9. V.I. Belov, Algorithms for Disambiguating in a Multi-Scale Phase-Measuring System, *Radiotekhnika electronica Journal*, Vol. 23, No. 8, 1978, pp. 1657-1661.
10. V.I. Belov, Quasi-Optimal Algorithm for Disambiguating in a Multi-Scale Phase-Measuring System, *Radio Engineering and Electronics*, *Radiotekhnika electronica Journal*, Vol. 35, No. 8, 1990, pp. 1642-1645.
11. V.P. Denisov, Development of the Method for Disambiguating Multi-Scale Phase Measurements Based on the Maximum Likelihood Principle, *Izvesiya vuzov. Radioelectronica Journal*, No. 11, 1990, pp. 3-7.
12. V.P. Denisov, Analysis of a quasioptimal algorithm for eliminating ambiguities in a multiscale phase measurement system, *Journal of Communications Technology and Electronics* Vol. 40, No. 6, 1995, pp. 82-88.
13. V.P. Denisov, Methods for Approximate Calculation of the Probability of Correct Disambiguation in Multi-Scale Phase-Measuring Systems, *Radiotekhnika electronica Journal*, Vol. 25, No. 11, 1980, pp. 2323-2325.
14. A.N. Armizonov, D.V. Dubinin, Methods of an approximate calculation of the probability of correct removal of ambiguity in phase direction finders with a planar antenna array. *Journal of Communications Technology and Electronics* Vol. 40, No. 4, 1995, pp. 10-15.
15. V.P. Denisov, D.V. Dubinin, V.V. Slaktion, Limit Accuracy of Multiscale Phase Meters, *Journal of Communications Technology and Electronics* Vol. 45, No. 3, March 2000, pp. 301-306.
16. V.P. Denisov, D.V. Dubinin, M.V. Krutikov, A.A. Mescheryakov, A Research on Operation of a Phase Radio Direction Finder with Quasi-Optimal Disambiguation for Terrestrial Lines, *Doklady TUSUR* Vol. 24, No. 2, 2011, pp. 7-15.
17. V.P. Denisov, D.V. Dubinin, M.V. Krutikov, A.A. Mescheryakov, An Algorithm for Disambiguation of Large Errors in the Phase Radio Detection Finder, *Doklady TUSUR*, Vol. 26, No. 2, 2012, pp. 36-42.
18. V.P. Denisov, N.A. Kolyadin, K.E. Muhomor, M.P. Skorodumov, Disambiguation of Large Errors in Two-Base Phase Radio Direction Finders for Finding the Bearing of Scanning Radio Emission Source, *Radiotekhnika Journal*, No. 2, 2013, pp. 10-17.
19. V.P. Denisov, D.V. Dubinin, A.A. Mescheryakov, Rejection of abnormally large direction-finding errors in the process of resolving the measurement ambiguities in phase direction - finders implementing the maximum - likelihood method, *Journal of Communications Technology and Electronics*, Vol. 61, No. 10, 2016, pp. 1095-1100.
20. V.P. Denisov, D.V. Dubinin, A.A. Mescheryakov, "Physical and Mathematical Questions on Signal Processing in Multibase Phase Direction Finders", *Russian Physics Journal*, vol. 60, No. 10 pp. 1719-1727.

19.

Authors:

K.Subraja, N.Geetha, K.Mahesh

Paper Title:

BITS – A Novel Video Encryption Algorithm

Abstract: Increased digital information exchange poses a major threat against confidentiality of the information being shared. The information exchange among the parties is said to be efficient only if the transmission process is secure and withstand security breaches. The information shared may be text, image, audio or video. Because of the availability of Internet facility around the world, video became the prime source of information exchange. We all know that anything in the form of visuals will reach the target audience in an efficient manner. They are considered as the major component of the education sector. This paper proposes a novel real time video encryption called BITS. BITS is nothing but Blocking-Inverse-Transposition-Substitution. Initially the video frames are divided into four blocks and the block contents are inverted. Then the entire content of the frame is transpositioned based on the key. And finally the contents of the frame is substituted with different random value. This proposed algorithm is strong against brute-force and statistical attack. The proposed algorithm is suitable for all real time multimedia environments. This algorithm is a compression independent one. The first two phases of the BITS algorithm are implemented using MatLab. The time taken for the computation steps are recorded and analyzed in this paper.

101-105

Keywords: Information Security, Video encryption, BITS, Confidentiality.

References:

1. I. Agi and L. Gong, "An empirical study of secure MPEG video transmissions," *Proceedings of Internet Society Symposium on Network and Distributed Systems Security*, San Diego, CA, USA, 1996, pp. 137-144.
2. G. A. Spanos and T. B. Maples, "Performance Study of a Selective Encryption Scheme for the Security of Networked, Real-Time Video," *Proceedings of Fourth International Conference on Computer Communications and Networks - IC3N'95*, Las Vegas, NV, USA, 1995, pp. 2-10.
3. Hamidouche, Wassim & Farajallah, Mousa & Sidaty, Naty & El Assad, Safwan & Déforges, Olivier. (2017). Real-Time Selective Video Encryption based on the Chaos System in Scalable HEVC Extension. *Signal Processing: Image Communication*. 58. 10.1016/j.image.2017.06.007.
4. Liu F., Koenig H. (2005) Puzzle – A Novel Video Encryption Algorithm. In: Dittmann J., Katzenbeisser S., Uhl A. (eds) *Communications and Multimedia Security. CMS 2005. Lecture Notes in Computer Science*, vol 3677. Springer, Berlin, Heidelberg
5. Choo, E., Lee, J., Lee, H., & Nam, G. (2007). SRMT: A lightweight encryption scheme for secure real-time multimedia transmission. In *Proceedings - 2007 International Conference on Multimedia and Ubiquitous Engineering, MUE 2007* (pp. 60-65). [4197250] <https://doi.org/10.1109/MUE.2007.194>

	<ol style="list-style-type: none"> 6. C. N. Raju, G. Umadevi, K. Srinathan and C. V. Jawahar, "Fast and Secure Real-Time Video Encryption," 2008 Sixth Indian Conference on Computer Vision, Graphics & Image Processing, Bhubaneswar, 2008, pp. 257-264. 7. Gayathri, N., & Mahesh, D. K. (2018). A Systematic Study on Video Indexing. International Journal of Pure and Applied Mathematics, 118(7), 207-213. 8. Wu, Xiangjun & Bai, Chenxi & Kan, Haibin. (2014). A new color image cryptosystem via hyperchaos synchronization. Communications in Nonlinear Science and Numerical Simulation. 19. 1884–1897. 10.1016/j.cnsns.2013.10.025. 9. Vignesh. M1, Raihana. P.A2, Shahadha Hakkim3, Sukanya. S (2018), An Efficient K-N Secret Sharing Image and AES Encryption Algorithm in Visual Cryptography, International Journal of Advanced Research in Computer and Communication Engineering, Vol. 7, Issue 2, February 2018, pp. 233-239. 10. Zeng, W., & Lei, S. (2003). Efficient frequency domain selective scrambling of digital video. IEEE Transactions on Multimedia, 5(1), 118-129. 11. Jiangtao Wen, M. Severa, Wenjun Zeng, M. H. Luttrell and Weiyin Jin, "A format-compliant configurable encryption framework for access control of video," in IEEE Transactions on Circuits and Systems for Video Technology, vol. 12, no. 6, pp. 545-557, June 2002. 12. Gayathri, N., & Mahesh, K. (2018, December). A Generic Approach for Video Indexing. In International conference on Computer Networks, Big data and IoT (pp. 701-708). Springer, Cham. 													
20.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Authors:</td> <td>Akhmetov Adilbek Agabekovich, Yuldashev Azamat Ismoilovich</td> </tr> <tr> <td>Paper Title:</td> <td>Advanced Disc Spray Tip Universal Fan Sprayer</td> </tr> <tr> <td colspan="2">Abstract: Fan sprayers such as OVH-600 and VP-1 are of indisputable importance in the fight against agricultural pests and diseases, but they have significant disadvantages associated with uneven application of pesticides due to the oscillating movement of their working bodies. To eliminate this drawback, the Agrikhim joint venture developed a universal fan sprayer VP-11B, which processes field crops, orchards and vineyards based on controlled airborne droplets with simultaneous continuous girth of the entire implement width within ± 900 of the sprayer symmetry axis (in a total of 1800), i.e. around the perimeter of the treatment area. The main working element of the universal fan sprayer is the spraying tips quality performance indicators, which largely depends on the correct choice of parameters of its parts, including the radius of the input channels to the swirl chamber on the swirl disk, to justify the rational value of which this article is aimed.</td> </tr> <tr> <td colspan="2">Keywords: sprayer, spray tips, airborne droplets, radius, chamber, swirls, nozzle, inlet channels, entrance angle.</td> </tr> <tr> <td colspan="2">References:</td> </tr> <tr> <td colspan="2"> <ol style="list-style-type: none"> 1. Akhmetov A.A., Yuldashev A.I., Kambarova D.U. Justification of the number of nozzles of a universal fan sprayer // Agricultural machines and technologies. 2020.V. 14. No. 1. P. 76-80. 2. Volovik A.S., Glez V.M., Zamotaev A.I. et al. Protecting Potatoes from Diseases, Pests, and Weeds: A Handbook. - M.: Agropromizdat. 1989.205 p. 3. Bazdyrev G.I., Tretyakov N.N., Beloshapkina O.O. Integrated plant protection against pests. M.: "INFRA-M", 2014. 302 p. 4. Grisso R.B., Dickey E.C., Schulze L.D. The cost of misapplication of herbicides. – Applied Engineering in Agriculture, 1989; 5(3): pp. 344-347. 5. Derksen R.C. Hydraulic nozzles for boom sprayers. NRAES. 1994. 6 p. 6. Drincha V.M. and I. Rufai. Prospective areas in Agricultural Engineering Research for Sustainable Agriculture and Rual development. M.: VIM, 2005. 168 p. 7. Jobnson M.P., Swetnam L.D. Sprayer nozzles: selection and calibration. University of Kentucky. Pat 3. 2000. p 6. 8. Zinchenko V.A. Chemical protection of plants: tools, technology and environmental safety. M.: Kolos. 2012.24 p. 9. Klenin N.I., Sakun V.A. Agricultural and reclamation machines. M.: Kolos. 1980.671 p. 10. Korolev P.A. Safety measures during transportation and storage of plant protection chemicals. M.: Kolos, 1966.64 p. 11. Korchagin V.N. Plant protection against pests and diseases in the garden plot: a Handbook. Moscow: Agropromizdat, 1987.317 p. 12. Kostyuk A.V., Lukacheva N.G. The effectiveness of the use of herbicides in corn // Agriculture. 2015. No. 4. P. 30-32. 13. Koshelyaev I.P. Plant protection. Protection of essential oil and medicinal plants from pests and diseases. Penza, 2014.150 p. 14. Matchanov R., Yuldashev A., Voinov S., Sherimova G. Experimental studies of a double-nozzle fan sprayer. // The world of agrotechnics. Tashkent, 2018. No. 6. .26-28p. 15. Matchanov R.D. Plant protection in the culture-pest-drug-machine system. Tashkent: Fan. 2016.360 p. 16. Nikitin N.V., Spiridonov Yu.Ya., Shestakov V.G. Scientific and practical aspects of the technology of using modern herbicides in crop production. M.: RAAS. VNIIF. 2010.189 p. 17. Popov S. Ya., Dorozhkina L.A., Kalinin V.A. Fundamentals of chemical plant protection. M.: Art-Lyon. 2003.208 p. 18. Pearson S.L., T. Reed and B. Gobel. New Developments in Spray Tips to Reduce Drift. ASAE Paper № 931081. 1996. 15 p. 19. Rufai I., Drincha V. Ecological aspects of agricultural mechanization. Published by ABU Press Ltd, 2009. pp. 262. 20. Sadduth K.A., Borgelt S.C., Hou J. Performance of chemical injection sprayer system. Transactions of the ASAE. 1995. Vol. 11(3): pp. 343-348. 21. Handbook of agricultural machinery designer. - Moscow: Mashgiz, 1961. Vol. 2. 862 p. 22. Toloraya T. R., Laskin R. V., Patskan V. Yu. Influence of pre-sown tillage systems on corn yield under different methods of main processing and herbicide application // Agriculture. 2018. no. 1. Pp. 23-26. 23. Turbin B. G., Lurie A. B., Grigoriev S. M., Ivanovich E. M., Melnikov S. V. Agricultural machines. Theory and technological calculation. Leningrad: Mashinostroenie, 1967, 583 p. 24. Sharkov I. N., Zakharov G. M., Krupskaya T. N. Efficiency of application of chemicals for spring wheat in the forest-steppe of Western Siberia // Agriculture. 2017. no. 6. Pp. 16-18. 25. Shtundyuk A.V. Protection of plants from pests and diseases (on the infield). Novosibirsk: Novosibirsk book publishing house, 1986. 160 p. 26. Cherkashin V. N., Malykhin V. A., Krivososova O. N. Protection of field crops from pests, diseases and weeds // Agriculture, 2012, No. 3. Pp. 28-30. </td> </tr> </table>	Authors:	Akhmetov Adilbek Agabekovich, Yuldashev Azamat Ismoilovich	Paper Title:	Advanced Disc Spray Tip Universal Fan Sprayer	Abstract: Fan sprayers such as OVH-600 and VP-1 are of indisputable importance in the fight against agricultural pests and diseases, but they have significant disadvantages associated with uneven application of pesticides due to the oscillating movement of their working bodies. To eliminate this drawback, the Agrikhim joint venture developed a universal fan sprayer VP-11B, which processes field crops, orchards and vineyards based on controlled airborne droplets with simultaneous continuous girth of the entire implement width within ± 900 of the sprayer symmetry axis (in a total of 1800), i.e. around the perimeter of the treatment area. The main working element of the universal fan sprayer is the spraying tips quality performance indicators, which largely depends on the correct choice of parameters of its parts, including the radius of the input channels to the swirl chamber on the swirl disk, to justify the rational value of which this article is aimed.		Keywords: sprayer, spray tips, airborne droplets, radius, chamber, swirls, nozzle, inlet channels, entrance angle.		References:		<ol style="list-style-type: none"> 1. Akhmetov A.A., Yuldashev A.I., Kambarova D.U. Justification of the number of nozzles of a universal fan sprayer // Agricultural machines and technologies. 2020.V. 14. No. 1. P. 76-80. 2. Volovik A.S., Glez V.M., Zamotaev A.I. et al. Protecting Potatoes from Diseases, Pests, and Weeds: A Handbook. - M.: Agropromizdat. 1989.205 p. 3. Bazdyrev G.I., Tretyakov N.N., Beloshapkina O.O. Integrated plant protection against pests. M.: "INFRA-M", 2014. 302 p. 4. Grisso R.B., Dickey E.C., Schulze L.D. The cost of misapplication of herbicides. – Applied Engineering in Agriculture, 1989; 5(3): pp. 344-347. 5. Derksen R.C. Hydraulic nozzles for boom sprayers. NRAES. 1994. 6 p. 6. Drincha V.M. and I. Rufai. Prospective areas in Agricultural Engineering Research for Sustainable Agriculture and Rual development. M.: VIM, 2005. 168 p. 7. Jobnson M.P., Swetnam L.D. Sprayer nozzles: selection and calibration. University of Kentucky. Pat 3. 2000. p 6. 8. Zinchenko V.A. Chemical protection of plants: tools, technology and environmental safety. M.: Kolos. 2012.24 p. 9. Klenin N.I., Sakun V.A. Agricultural and reclamation machines. M.: Kolos. 1980.671 p. 10. Korolev P.A. Safety measures during transportation and storage of plant protection chemicals. M.: Kolos, 1966.64 p. 11. Korchagin V.N. Plant protection against pests and diseases in the garden plot: a Handbook. Moscow: Agropromizdat, 1987.317 p. 12. Kostyuk A.V., Lukacheva N.G. The effectiveness of the use of herbicides in corn // Agriculture. 2015. No. 4. P. 30-32. 13. Koshelyaev I.P. Plant protection. Protection of essential oil and medicinal plants from pests and diseases. Penza, 2014.150 p. 14. Matchanov R., Yuldashev A., Voinov S., Sherimova G. Experimental studies of a double-nozzle fan sprayer. // The world of agrotechnics. Tashkent, 2018. No. 6. .26-28p. 15. Matchanov R.D. Plant protection in the culture-pest-drug-machine system. Tashkent: Fan. 2016.360 p. 16. Nikitin N.V., Spiridonov Yu.Ya., Shestakov V.G. Scientific and practical aspects of the technology of using modern herbicides in crop production. M.: RAAS. VNIIF. 2010.189 p. 17. Popov S. Ya., Dorozhkina L.A., Kalinin V.A. Fundamentals of chemical plant protection. M.: Art-Lyon. 2003.208 p. 18. Pearson S.L., T. Reed and B. Gobel. New Developments in Spray Tips to Reduce Drift. ASAE Paper № 931081. 1996. 15 p. 19. Rufai I., Drincha V. Ecological aspects of agricultural mechanization. Published by ABU Press Ltd, 2009. pp. 262. 20. Sadduth K.A., Borgelt S.C., Hou J. Performance of chemical injection sprayer system. Transactions of the ASAE. 1995. Vol. 11(3): pp. 343-348. 21. Handbook of agricultural machinery designer. - Moscow: Mashgiz, 1961. Vol. 2. 862 p. 22. Toloraya T. R., Laskin R. V., Patskan V. Yu. Influence of pre-sown tillage systems on corn yield under different methods of main processing and herbicide application // Agriculture. 2018. no. 1. Pp. 23-26. 23. Turbin B. G., Lurie A. B., Grigoriev S. M., Ivanovich E. M., Melnikov S. V. Agricultural machines. Theory and technological calculation. Leningrad: Mashinostroenie, 1967, 583 p. 24. Sharkov I. N., Zakharov G. M., Krupskaya T. N. Efficiency of application of chemicals for spring wheat in the forest-steppe of Western Siberia // Agriculture. 2017. no. 6. Pp. 16-18. 25. Shtundyuk A.V. Protection of plants from pests and diseases (on the infield). Novosibirsk: Novosibirsk book publishing house, 1986. 160 p. 26. Cherkashin V. N., Malykhin V. A., Krivososova O. N. Protection of field crops from pests, diseases and weeds // Agriculture, 2012, No. 3. Pp. 28-30. 		106-111
Authors:	Akhmetov Adilbek Agabekovich, Yuldashev Azamat Ismoilovich													
Paper Title:	Advanced Disc Spray Tip Universal Fan Sprayer													
Abstract: Fan sprayers such as OVH-600 and VP-1 are of indisputable importance in the fight against agricultural pests and diseases, but they have significant disadvantages associated with uneven application of pesticides due to the oscillating movement of their working bodies. To eliminate this drawback, the Agrikhim joint venture developed a universal fan sprayer VP-11B, which processes field crops, orchards and vineyards based on controlled airborne droplets with simultaneous continuous girth of the entire implement width within ± 900 of the sprayer symmetry axis (in a total of 1800), i.e. around the perimeter of the treatment area. The main working element of the universal fan sprayer is the spraying tips quality performance indicators, which largely depends on the correct choice of parameters of its parts, including the radius of the input channels to the swirl chamber on the swirl disk, to justify the rational value of which this article is aimed.														
Keywords: sprayer, spray tips, airborne droplets, radius, chamber, swirls, nozzle, inlet channels, entrance angle.														
References:														
<ol style="list-style-type: none"> 1. Akhmetov A.A., Yuldashev A.I., Kambarova D.U. Justification of the number of nozzles of a universal fan sprayer // Agricultural machines and technologies. 2020.V. 14. No. 1. P. 76-80. 2. Volovik A.S., Glez V.M., Zamotaev A.I. et al. Protecting Potatoes from Diseases, Pests, and Weeds: A Handbook. - M.: Agropromizdat. 1989.205 p. 3. Bazdyrev G.I., Tretyakov N.N., Beloshapkina O.O. Integrated plant protection against pests. M.: "INFRA-M", 2014. 302 p. 4. Grisso R.B., Dickey E.C., Schulze L.D. The cost of misapplication of herbicides. – Applied Engineering in Agriculture, 1989; 5(3): pp. 344-347. 5. Derksen R.C. Hydraulic nozzles for boom sprayers. NRAES. 1994. 6 p. 6. Drincha V.M. and I. Rufai. Prospective areas in Agricultural Engineering Research for Sustainable Agriculture and Rual development. M.: VIM, 2005. 168 p. 7. Jobnson M.P., Swetnam L.D. Sprayer nozzles: selection and calibration. University of Kentucky. Pat 3. 2000. p 6. 8. Zinchenko V.A. Chemical protection of plants: tools, technology and environmental safety. M.: Kolos. 2012.24 p. 9. Klenin N.I., Sakun V.A. Agricultural and reclamation machines. M.: Kolos. 1980.671 p. 10. Korolev P.A. Safety measures during transportation and storage of plant protection chemicals. M.: Kolos, 1966.64 p. 11. Korchagin V.N. Plant protection against pests and diseases in the garden plot: a Handbook. Moscow: Agropromizdat, 1987.317 p. 12. Kostyuk A.V., Lukacheva N.G. The effectiveness of the use of herbicides in corn // Agriculture. 2015. No. 4. P. 30-32. 13. Koshelyaev I.P. Plant protection. Protection of essential oil and medicinal plants from pests and diseases. Penza, 2014.150 p. 14. Matchanov R., Yuldashev A., Voinov S., Sherimova G. Experimental studies of a double-nozzle fan sprayer. // The world of agrotechnics. Tashkent, 2018. No. 6. .26-28p. 15. Matchanov R.D. Plant protection in the culture-pest-drug-machine system. Tashkent: Fan. 2016.360 p. 16. Nikitin N.V., Spiridonov Yu.Ya., Shestakov V.G. Scientific and practical aspects of the technology of using modern herbicides in crop production. M.: RAAS. VNIIF. 2010.189 p. 17. Popov S. Ya., Dorozhkina L.A., Kalinin V.A. Fundamentals of chemical plant protection. M.: Art-Lyon. 2003.208 p. 18. Pearson S.L., T. Reed and B. Gobel. New Developments in Spray Tips to Reduce Drift. ASAE Paper № 931081. 1996. 15 p. 19. Rufai I., Drincha V. Ecological aspects of agricultural mechanization. Published by ABU Press Ltd, 2009. pp. 262. 20. Sadduth K.A., Borgelt S.C., Hou J. Performance of chemical injection sprayer system. Transactions of the ASAE. 1995. Vol. 11(3): pp. 343-348. 21. Handbook of agricultural machinery designer. - Moscow: Mashgiz, 1961. Vol. 2. 862 p. 22. Toloraya T. R., Laskin R. V., Patskan V. Yu. Influence of pre-sown tillage systems on corn yield under different methods of main processing and herbicide application // Agriculture. 2018. no. 1. Pp. 23-26. 23. Turbin B. G., Lurie A. B., Grigoriev S. M., Ivanovich E. M., Melnikov S. V. Agricultural machines. Theory and technological calculation. Leningrad: Mashinostroenie, 1967, 583 p. 24. Sharkov I. N., Zakharov G. M., Krupskaya T. N. Efficiency of application of chemicals for spring wheat in the forest-steppe of Western Siberia // Agriculture. 2017. no. 6. Pp. 16-18. 25. Shtundyuk A.V. Protection of plants from pests and diseases (on the infield). Novosibirsk: Novosibirsk book publishing house, 1986. 160 p. 26. Cherkashin V. N., Malykhin V. A., Krivososova O. N. Protection of field crops from pests, diseases and weeds // Agriculture, 2012, No. 3. Pp. 28-30. 														
21.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Authors:</td> <td>Ganugula Sri Harshan, Sudheer Rayudu, Krishnan Anush Bharadwaj, Saravanan K</td> </tr> <tr> <td>Paper Title:</td> <td>Finger Vein Recognition Using Vgg-16 Cnn Algorithm</td> </tr> <tr> <td colspan="2">Abstract: With the advancement in the electronic technology, data identification and security is to be mainly considered as a factor in the security. Biometric recognition has been taken in to consideration for security purpose. Data security has to be done to prevent the system security from transmission of data by unauthorized</td> </tr> </table>	Authors:	Ganugula Sri Harshan, Sudheer Rayudu, Krishnan Anush Bharadwaj, Saravanan K	Paper Title:	Finger Vein Recognition Using Vgg-16 Cnn Algorithm	Abstract: With the advancement in the electronic technology, data identification and security is to be mainly considered as a factor in the security. Biometric recognition has been taken in to consideration for security purpose. Data security has to be done to prevent the system security from transmission of data by unauthorized		112-114						
Authors:	Ganugula Sri Harshan, Sudheer Rayudu, Krishnan Anush Bharadwaj, Saravanan K													
Paper Title:	Finger Vein Recognition Using Vgg-16 Cnn Algorithm													
Abstract: With the advancement in the electronic technology, data identification and security is to be mainly considered as a factor in the security. Biometric recognition has been taken in to consideration for security purpose. Data security has to be done to prevent the system security from transmission of data by unauthorized														

	<p>users. Various authentications are taken in to consideration but most commonly focuses on finger print biometric system. Biometric recognition is taken in priority which is high safe and security oriented. Preprocessing, extraction and Equal Error rate are taken in to consideration. In this we are mainly focusing in finger vein authentication domains over the system implementation.</p> <p>Keywords: LBP, Data augmentation, Resnet, VGG-16, ERR, CNN.</p> <p>References:</p> <ol style="list-style-type: none"> 1. J. Kashif Shaheed, Hangang Liu, Gongping Yang, Imran Qureshi, Jie Gou and Yilong Yin, "A systematic review of finger vein recognition techniques", information 2018, MDPI, Basel, Switzerland, 2018 2. Rahul Dev and Ruqaiya Khanam, " Review of Finger Vein Feature Extraction Methods", International Conference on Computing, Communication and Automation (ICCCA2017), ISBN: 978-1-5090-6471-7, IEEE 2017 3. Chetana Hegde, Phanindra J, P Deepa Shenoy and L M Patnaik, " Human Authentication using Finger Knuckle Print", ACM, COMPUTE'11, March 25-26, Bangalore, Karnataka, India.2011. 4. P Gopinath and R Shivakumar, " A Review of Various Feature Extraction Methods on Finger Vein Images", IJARTET 2016 5. Rig Das, Emanuela Piciuccio, Emanuele Maiorana and Patrizio Campisi, " Convolutional Neural network for Finger Vein Based Biometric Identification", , IEEE transactions on Information Forensics and Security, 2018 6. Huafeng Qin and Mounim A. El-Yacoubi, " Deep representation based feature extraction and recovering for finger vein verification", IEEE Transactions on information forensics and security, Vol.12, No.8, August-2017. 7. Wenjie Liu, Weijun Li, Linjun Sun, Liping Zhang and Peng Chen, "Finger vein recognition based on deep learning", 12th IEEE conference on industrial electronics and applications (ICIEA), 2017. 							
22.	<table border="1"> <tr> <td>Authors:</td> <td>Kambala Monica Sai, Haritha Chandrika P, Kasim Bebe, G. S Roja Pramila, G. Sankara Rao</td> </tr> <tr> <td>Paper Title:</td> <td>Optical Character Recognition using CRNN</td> </tr> <tr> <td colspan="2"> <p>Abstract: Optical Character Recognition (OCR) is a computer vision technique which recognizes text present in any form of images, such as scanned documents and photos. In recent years, OCR has improved significantly in the precise recognition of text from images. Though there are many existing applications, we plan on exploring the domain of deep learning and build an optical character recognition system using deep learning architectures. In the later stage, this OCR system is developed to form a web application which provides the functionalities. The approach applied to achieve this is to implement a hybrid model containing three components namely, the Convolutional Neural Network component, the Recurrent Neural Network component and the Transcription component which decodes the output from RNN into the corresponding label sequence. The process of solving problems involving text recognition required CNN to extract feature maps from images. These sequence of feature vectors undergo sequence modeling through the RNN component predicting label distributions which are later translated using the Connectionist Temporal Classification technique in the transcription layer. The model implemented acts as the backend of the web application developed using the Flask web framework. The complete application is later containerized into an image using Docker. This helps in easy deployment on the application along with its environment across any system.</p> <p>Keywords: Artificial Intelligence, Connectionist Temporal Classification (CTC), Convolutional Neural Network (CNN), Flask web framework, Long-Short Term Memory (LSTM), Recurrent Neural Network (RNN)</p> <p>References:</p> <ol style="list-style-type: none"> 1. "A Review on the Various Techniques used for Optical Character Recognition", Pranob K Charles, V. Harish, M. Swathi, Ch. Deepthi, International Journal of Engineering Research and Applications, Vol. 2, Issue 1, pp. 659-662, Jan-Feb 2012. 2. "Improving Optical Character Recognition Techniques", Nitin Ramesh, Aksha Srivastava, K. Deeba, International Journal of Engineering & Technology. 3. "A State-of-the-Art Survey on Deep Learning Theory and Architectures", Md Zahangir Alom, Tarek M. Taha, Chris Yakopcic, Stefan Westberg, Paheding Sidike, Mst Shamima Nasrin, Mahmudul Hasan, Brian C. Van Essen, Abdul A. S. Awwal and Vijayan K. Asari. www.mdpi.com/journal/electronics 4. "An Overview of the Tesseract OCR Engine", Ray Smith, Google Inc. 5. "An End-to-End Trainable Neural Network for Image-based Sequence Recognition and its Application to Scene Text Recognition", Baoguang Shi, Xiang Bai, Cong Yao, arXiv. 6. "Optical Character Recognition Technique Algorithms", N. Venkata Rao, Dr. A.S.C. Sastry, A.S.N Chakravarthy, Kalyanchakravarthi P, Journal of Theoretical and Applied Information Technology, 20th January 2016, Vol. 83, No. 2, ISSN: 1992-8645. </td> </tr> </table>	Authors:	Kambala Monica Sai, Haritha Chandrika P, Kasim Bebe, G. S Roja Pramila, G. Sankara Rao	Paper Title:	Optical Character Recognition using CRNN	<p>Abstract: Optical Character Recognition (OCR) is a computer vision technique which recognizes text present in any form of images, such as scanned documents and photos. In recent years, OCR has improved significantly in the precise recognition of text from images. Though there are many existing applications, we plan on exploring the domain of deep learning and build an optical character recognition system using deep learning architectures. In the later stage, this OCR system is developed to form a web application which provides the functionalities. The approach applied to achieve this is to implement a hybrid model containing three components namely, the Convolutional Neural Network component, the Recurrent Neural Network component and the Transcription component which decodes the output from RNN into the corresponding label sequence. The process of solving problems involving text recognition required CNN to extract feature maps from images. These sequence of feature vectors undergo sequence modeling through the RNN component predicting label distributions which are later translated using the Connectionist Temporal Classification technique in the transcription layer. The model implemented acts as the backend of the web application developed using the Flask web framework. The complete application is later containerized into an image using Docker. This helps in easy deployment on the application along with its environment across any system.</p> <p>Keywords: Artificial Intelligence, Connectionist Temporal Classification (CTC), Convolutional Neural Network (CNN), Flask web framework, Long-Short Term Memory (LSTM), Recurrent Neural Network (RNN)</p> <p>References:</p> <ol style="list-style-type: none"> 1. "A Review on the Various Techniques used for Optical Character Recognition", Pranob K Charles, V. Harish, M. Swathi, Ch. Deepthi, International Journal of Engineering Research and Applications, Vol. 2, Issue 1, pp. 659-662, Jan-Feb 2012. 2. "Improving Optical Character Recognition Techniques", Nitin Ramesh, Aksha Srivastava, K. Deeba, International Journal of Engineering & Technology. 3. "A State-of-the-Art Survey on Deep Learning Theory and Architectures", Md Zahangir Alom, Tarek M. Taha, Chris Yakopcic, Stefan Westberg, Paheding Sidike, Mst Shamima Nasrin, Mahmudul Hasan, Brian C. Van Essen, Abdul A. S. Awwal and Vijayan K. Asari. www.mdpi.com/journal/electronics 4. "An Overview of the Tesseract OCR Engine", Ray Smith, Google Inc. 5. "An End-to-End Trainable Neural Network for Image-based Sequence Recognition and its Application to Scene Text Recognition", Baoguang Shi, Xiang Bai, Cong Yao, arXiv. 6. "Optical Character Recognition Technique Algorithms", N. Venkata Rao, Dr. A.S.C. Sastry, A.S.N Chakravarthy, Kalyanchakravarthi P, Journal of Theoretical and Applied Information Technology, 20th January 2016, Vol. 83, No. 2, ISSN: 1992-8645. 		115-120
Authors:	Kambala Monica Sai, Haritha Chandrika P, Kasim Bebe, G. S Roja Pramila, G. Sankara Rao							
Paper Title:	Optical Character Recognition using CRNN							
<p>Abstract: Optical Character Recognition (OCR) is a computer vision technique which recognizes text present in any form of images, such as scanned documents and photos. In recent years, OCR has improved significantly in the precise recognition of text from images. Though there are many existing applications, we plan on exploring the domain of deep learning and build an optical character recognition system using deep learning architectures. In the later stage, this OCR system is developed to form a web application which provides the functionalities. The approach applied to achieve this is to implement a hybrid model containing three components namely, the Convolutional Neural Network component, the Recurrent Neural Network component and the Transcription component which decodes the output from RNN into the corresponding label sequence. The process of solving problems involving text recognition required CNN to extract feature maps from images. These sequence of feature vectors undergo sequence modeling through the RNN component predicting label distributions which are later translated using the Connectionist Temporal Classification technique in the transcription layer. The model implemented acts as the backend of the web application developed using the Flask web framework. The complete application is later containerized into an image using Docker. This helps in easy deployment on the application along with its environment across any system.</p> <p>Keywords: Artificial Intelligence, Connectionist Temporal Classification (CTC), Convolutional Neural Network (CNN), Flask web framework, Long-Short Term Memory (LSTM), Recurrent Neural Network (RNN)</p> <p>References:</p> <ol style="list-style-type: none"> 1. "A Review on the Various Techniques used for Optical Character Recognition", Pranob K Charles, V. Harish, M. Swathi, Ch. Deepthi, International Journal of Engineering Research and Applications, Vol. 2, Issue 1, pp. 659-662, Jan-Feb 2012. 2. "Improving Optical Character Recognition Techniques", Nitin Ramesh, Aksha Srivastava, K. Deeba, International Journal of Engineering & Technology. 3. "A State-of-the-Art Survey on Deep Learning Theory and Architectures", Md Zahangir Alom, Tarek M. Taha, Chris Yakopcic, Stefan Westberg, Paheding Sidike, Mst Shamima Nasrin, Mahmudul Hasan, Brian C. Van Essen, Abdul A. S. Awwal and Vijayan K. Asari. www.mdpi.com/journal/electronics 4. "An Overview of the Tesseract OCR Engine", Ray Smith, Google Inc. 5. "An End-to-End Trainable Neural Network for Image-based Sequence Recognition and its Application to Scene Text Recognition", Baoguang Shi, Xiang Bai, Cong Yao, arXiv. 6. "Optical Character Recognition Technique Algorithms", N. Venkata Rao, Dr. A.S.C. Sastry, A.S.N Chakravarthy, Kalyanchakravarthi P, Journal of Theoretical and Applied Information Technology, 20th January 2016, Vol. 83, No. 2, ISSN: 1992-8645. 								
23.	<table border="1"> <tr> <td>Authors:</td> <td>Rajesh Kanna, S Kalpana, Pushpa Sharma</td> </tr> <tr> <td>Paper Title:</td> <td>Application of Data Mining in Hydrocarbon Transportation, Storage and Safety Handling</td> </tr> <tr> <td colspan="2"> <p>Abstract: Considering the present scenario, in the hydrocarbon industries, heavy oil prices and need for explorations leads to decide the economy of the country. Technology had been identified and experimentally considered for new hydrocarbon exploration with the help of data mining. Besides, transportation and storage of the produced Hydrocarbon has been monitored and can be maintained in control limit using data mining too. Hydrocarbon can be stored within a tank made up of steel, iron or combination of suitable material. The tanks are properly designed, erected and all its fittings are secured. Proper construction and maintained will aid in preventing any leakage of petroleum products to the environment. Current study is about influence of hydrocarbon transportation and storage using available methodology in upstream hydrocarbon sectors. Petroleum reservoir consist of complex heterogeneities that are not limited to extract the hydrocarbon from the subsurface to surface. Post drilling, produced crude and gas will be transported fuel have to transported to</p> </td> </tr> </table>	Authors:	Rajesh Kanna, S Kalpana, Pushpa Sharma	Paper Title:	Application of Data Mining in Hydrocarbon Transportation, Storage and Safety Handling	<p>Abstract: Considering the present scenario, in the hydrocarbon industries, heavy oil prices and need for explorations leads to decide the economy of the country. Technology had been identified and experimentally considered for new hydrocarbon exploration with the help of data mining. Besides, transportation and storage of the produced Hydrocarbon has been monitored and can be maintained in control limit using data mining too. Hydrocarbon can be stored within a tank made up of steel, iron or combination of suitable material. The tanks are properly designed, erected and all its fittings are secured. Proper construction and maintained will aid in preventing any leakage of petroleum products to the environment. Current study is about influence of hydrocarbon transportation and storage using available methodology in upstream hydrocarbon sectors. Petroleum reservoir consist of complex heterogeneities that are not limited to extract the hydrocarbon from the subsurface to surface. Post drilling, produced crude and gas will be transported fuel have to transported to</p>		121-123
Authors:	Rajesh Kanna, S Kalpana, Pushpa Sharma							
Paper Title:	Application of Data Mining in Hydrocarbon Transportation, Storage and Safety Handling							
<p>Abstract: Considering the present scenario, in the hydrocarbon industries, heavy oil prices and need for explorations leads to decide the economy of the country. Technology had been identified and experimentally considered for new hydrocarbon exploration with the help of data mining. Besides, transportation and storage of the produced Hydrocarbon has been monitored and can be maintained in control limit using data mining too. Hydrocarbon can be stored within a tank made up of steel, iron or combination of suitable material. The tanks are properly designed, erected and all its fittings are secured. Proper construction and maintained will aid in preventing any leakage of petroleum products to the environment. Current study is about influence of hydrocarbon transportation and storage using available methodology in upstream hydrocarbon sectors. Petroleum reservoir consist of complex heterogeneities that are not limited to extract the hydrocarbon from the subsurface to surface. Post drilling, produced crude and gas will be transported fuel have to transported to</p>								

refineries for further processing of crude into various products. Apart from upstream, persons working on midstream and downstream plays a crucial role. Crude hydrocarbon can be transported by vessels, pipelines and road. Pipeline and truck transportation are considered to be the prior most than other modes. Transporting oil and gas by pipeline or rail is in general quite safe. But when the safety of transporting oil and gas by pipelines and rail is compared, taking into consideration the amount of product moved, pipe-lines are found to be the much safer transportation method. Refinery has to ensure safety aspects of storing the received petroleum crude which has to be processed in to commercial products. They must be maintained in prescribed temperature and pressure condition. In order to make this successful, some of the safety protocols has to be followed which are defined and approved ministry and safety norms. This article deals about the process and procedures in transporting and storage of fuels from upstream, midstream and downstream. Hence, the protocols and other safety precaution aspects are discussed to have a safe storage and handling practices.

Keywords: Downstream, Hydrocarbon, Midstream, Safety, Transportation.

References:

1. Ilavalagan P, Storage handling and safety procedure for fuel in oil and gas industry. International Journal of Innovative Technology and Exploring Engineering, vol. 9. no. 1, pp. 1 -2, 2019.
2. Rajesh Kanna, Sivasankar P, Kalpana S, Applications of data mining in hydrocarbon exploration, constraints on geology and petroleum reservoir, International Journal of Recent Technology and Engineering, vol. 9, no. 1, pp. 921 – 924, 2020.
3. Bidisha Sarkar, Jain Mathew, Causes for Indian basket crude oil price fluctuations and its impact on Indian economy, SDMMID, Journal of Management, vol. 14, no. 1, pp. 139 – 145, 2013.
4. Szilas, A.P. Production and transport of oil and gas, Part A: Flow mechanics and production. United States: N. pp. 14 - 16, 1985.
5. Shaopeng L, Shixin Z, Baozhong W, Relationship between industrial index and source rock evaluation parameters of oil shale. Natural Gas Geoscience, vol. 3, no. 7, pp. 129 – 132, 2012.
6. Barai S.K. Data mining applications in transportation engineering, Transport, vol. 18, no. 5, pp. 216 – 223, 2003.

Authors:	D. Mabuni
Paper Title:	Classification Algorithm in Data Mining Based on Maximum Exponential Class Counts Technique

Abstract: A new split attribute measure for decision tree node split during decision tree creation is proposed. The new split measure consists of the sum of class counts of distinct values of categorical attributes in the dataset. Larger counts induce larger partitions and smaller trees there by favors to the determination of the best spit attribute. The new split attribute measure is termed as maximum exponential class counts (MECC). Experiment results obtained over several UCI machine learning categorical datasets predominantly indicate that the decision tree models created based on the proposed MECC node split attribute technique provides better classification accuracy results and smaller trees in size than the decision trees created using popular gain ratio, normalized gain ratio and gini-index measures. The experimental results are mainly focused on performing and analyzing the results from the node splitting measures alone.

Keywords: Categorical attributes, categorical datasets, larger counts and larger partitions, maximum exponential class counts (MECC).

References:

1. A. P. Bremner, "Localised Splitting Criterion for Classification and Regression Trees", Ph.D thesis, Murdoch University, 2004.
2. B. Chandra, RaviKothari, and PallathPaul, "A new node splitting measure for decision tree construction", ELSEVIER, Pattern Recognition 43 (2010) 2725–2731, Pattern Recognition,
3. J. KENT MARTIN, "An Exact Probability Metric for Decision TreeSplitting and Stopping", Machine Learning, 28, 257–291 (1997)1997 Kluwer Academic Publishers. Manufactured in The Netherlands.
4. J. R. Quinlan, Induction of decision trees. Machine Learning, vol.1.pp. 81-106, 1986.
5. J. R. Quinlan, C4.5: Programs for machine learning. 1st ed.San Mateo, CA: Morgan Kaufmann, 1993.
6. J. R. Quinlan, Improved use of continuous attributes in C4.5, Journal of Artificial Intelligence Research, vol.4, pp.77-90, 1996.
7. L. Breiman, J. Friedman, R. Olsen, C. Stone, Classification and Regression Trees, Wadsworth International,1984.
8. R. Lopez De Mantaras, "A distance based attribute selection measure for decision tree induction", Machine Learning, 6, 81-92 (1991) © 1991 Kluwer Academic Publishers, Boston. Manufactured in The Netherlands.
9. S. Ruggieri, Efficient C4.5. IEEE Transactions on Knowledge and Data Engineering,vol.14, pp.438-444, 2002.
10. Syed Jawad Ali Shah and Qamruz Zaman, "A Mean Deviation Based Splitting Criterion for Classification Tree"
11. Sebastian Nowozin, "Improved Information Gain Estimates for Decision Tree Induction", Appearing in Proceedings of the 29th International Conference on Machine Learning, Edinburgh, Scotland, UK, 2012. Copyright 2012 by the author(s)/owner(s).
12. Wei-Yin Loh and Yu-Shan Shih, "SPLIT SELECTION METHODS FOR CLASSIFICATION TREES", Statistica Sinica 7(1997), 815-840
13. Xinmeng Zhang and Shengyi Jiang, "A Splitting Criteria Based on Similarity in Decision Tree Learning", JOURNAL OF SOFTWARE, VOL. 7, NO. 8, AUGUST 2012, © 2012 ACADEMY PUBLISHER doi:10.4304/jsw.7.8.1775-1782

124-130

24.

Authors:	Ajay Krishna .V.M, Madhusmitha .S, Nirmal .A, Dhinesh Kumar .S, U.Sowmmiya
Paper Title:	Energy Management between Solar Panel and Battery

Abstract: This project ensures a reduced energy loss of the renewable source and efficiency of solar and battery network. Because of the erratic irradiations and temperature, the solar source is called an uncontrollable source. In a microgrid, an energy storage device is attached to the photovoltaic system and uses a bidirectional DC-DC converter to monitor the charging, retention and discharge of batteries based on the load requirement. They are simulated to work under five conditions which has different relationships between each other. When

131-137

25.

synchronized with the battery bank this device acts controllable. Battery helps in reduction of loss of renewable source of energy. The type of operation is determined by the situation or algorithm. An integrated strategy for handling the energy is given to increase the performance of Photovoltaic systems. The expected system efficiency is measured using MATLAB / simulink for varying loads.

Keywords: Battery, Energy management, Photovoltaic system, boost converter.

References:

1. S.K. Kim, J.H. Joen, C.H. Cho, J.B. Ahn, and H Kwon, Dynamic modelling and control of a grid-connected hybrid generation system with versatile power transfer, IEEE Trans. Ind. Electron., vol. 55, no. 4, p. 1677-1688, Apr. 2008.
2. F. Valenciaga and P.F. Puleston, Supervisor control for a stand-alone hybrid generation system using wind and photovoltaic energy, IEEE Trans. Energy Conv., vol. 20(2), p. 398-405, June 2005.
3. Hamrouni N, Jraidi M, Chérif A. New control strategy for 2-stage grid connected photovoltaic power system. Renewable Energy, 2008; 33(10):p. 2212–21.
4. Barbosa PG, Rolim LGB, Watanabe EH, Hanitsch R. Control strategy for grid connected DC–AC converters with load power factor correction. IEEE Proceedings. Gener, Transm Distrib, 1998; 145(5): p. 487– 492.
5. Koutroulis E, Kalaitzakis K, Voulgaris NC., Development of a microcontroller based, photovoltaic maximum power point tracking control system. IEEE Transactions on Power Electronics, 2001; 16(1): p. 46–54.
6. Boucetta Abd Allah, Labeled Djamel, Control of Power and Voltage of Solar Grid Connected. International Journal of Electrical and Computer Engineering (IJECE), Vol. 6, No. 1, February 2016, pp. 26–33.
7. Use of Photovoltaics in Microgrid as Energy Source and Control Method using MATLAB/Simulink, International Journal of Electrical and Computer Engineering (IJECE), Vol. 6, No. 2, April 2016, pp. 851–858.
8. <http://www.batteryuniversity.com/partone-24.htm>
9. R.J. Wai and R.Y. Duan, High-efficiency bidirectional converter for power sources with great voltage diversity, IEEE Trans. Power Electron, vol. 22, no. 5, p. 1986-1996, Sep. 2007.
10. C. Marisarla and K.R. Kumar, “A Hybrid Wind and Solar Energy System with Battery Energy Storage for an Isolated System, International Journal of Engineering and Innovative Technology (IJEIT), vol.3, no. 3, p. 99-104, September 2013.
11. S.W. Mohod and M.V. Aware, Micro Wind Power Generator With Battery Energy Storage for Critical Load, IEEE Systems Journal, vol. 6, no. 1, p. 118-125, March 2012.
12. C.A. Hill, M.C. Such, D. Chen, J. Gonzalez and W.M. Grady, Battery Energy Storage for Enabling Integration of Distributed Solar Power Generation, IEEE Transactions on Smart Grid, vol. 3, no. 2, p.850 - 857, June 2012.
13. Matthew Clayton Such, Cody Hill, “Battery Energy Storage and Wind Energy Integrated into the Smart Grid”, IEEE PES Innovative Smart Grid Technologies (ISGT’12), p. 1-4, January 2012.
14. J.F. Manwell and J.G. McGowan, Lead Acid Battery Storage Model for Hybrid Energy Systems, Solar Energy, vol. 50, no. 5, p. 399-405, 1993.
15. Lombardi, P., Powalko, M., Rudion, K., Optimal operation of a virtual power plant, IEEE Power & Energy Society General Meeting, 2009.
16. Lagorse, J., Somoes, M., A multiagent fuzzy-logic- based energy management of hybrid systems, IEEE Industry Applications Society Annual Meeting (IAS), 2009.
17. Lu, D., Francois, B., Strategic framework of an energy management of a microgrid with a photovoltaic-based active generator, ELECTROMOTION, 2009
18. Pourmousavi S.A., Nehrir M.H., Colson C.M., Wang, C., Real-time energy management of a stand-alone hybrid wind-microturbine energy system using particle swarm optimization, IEEE Transactions on Sustainable Energy, 2010
19. Laloui S, Rekioua D, Rekioua T, Matagne E, “Fuzzy logic control of Standalone photovoltaic system with Battery Storage”, Journal of Power Sources, vol. 193, no. 2, pp. 899–907, 2009.
20. Akassewa Tchapo SINGO, “Système d’alimentation photovoltaïque avec stockage hybride pour l’habitat énergétiquement autonome”, Doctorat Theses Nancy-I, 2010.
22. S. Sallem, M.Chaabene, M.B.A.Kamoun, “Energy management algorithm for an optimum control of a photovoltaic water pumping system”. Applied Energy, vol.86, pp.2671-2680, 2009.
23. Vellanki Mehar Jyothi, T. Vijay Muni, S. V. N. L. Lalitha “An Optimal Energy Management System for PV/Battery Standalone system”. International Journal of Electrical and Computer Engineering (IJECE), Vol. 6, No. 6, December 2016, pp. 2538–2544 ISSN: 2088-8708,

26.	Authors:	Sunil B Ingole
	Paper Title:	Experimental Heat Transfer using Insert for Nusselt Number Enhancement
<p>Abstract: Various heat transfer and its enhancement techniques are found in literature. Many researchers have focused on such topics typically in last decade of last century. The paper deals with experimental work of the passive techniques which do not require direct application of external power, whereas the active techniques require an. Exact method and system used for research from 1964 till around 2000 is presented. A case study of twisted tape of Y as 4.2 and 5.2. It is seen that overall heat transfer coefficient is a function of Reynolds number. .It is noticed that on the tube side the flow conditions have included both laminar and turbulent flow. Graph presents shows heat transfer data for both twisted tapes. It can be seen that the overall heat transfer coefficient in general increase with increase in Reynolds number. For a given Reynolds number the overall heat transfer coefficient increase with decrease in twist ratio i.e. tape with tighter twist. Also friction factor increase with decreases in the twist ratio 1</p> <p>Keywords:</p> <p>References:</p> <ol style="list-style-type: none"> 1. A.E.Bergles, "Heat transfer enhancement the encouragement & accommodation of high heat fluxes," Journal of Heat transfer, vol. 119, no. 1, pp. 9-19, 1997. 2. E.Smithberg , F.Landis, "Friction & forced convection heat transfer characteristics in tubes with twisted tape swirl generators," Journal of heat transfer , pp. 39-49, 1964. 		138-144

3. C.Shivakumar , M.Raja Rao , "Compound augmentation of turbulent flow heat transfer in spirally corrugated tube with twisted tape inserts," Journal of energy heat mass transfer , pp. 119-122, 1989.
4. S.W.Hong , A.E.Bergles , "Augmentation of laminar flow heat transfer in tubes by means of twisted tape inserts," Journal of heat transfer, pp. 251-261, 1976.
5. K.Nandakumar, J.H.Masliyah, "Fully developed viscous flow in internally finned tubes," The chemical Engg journal, vol. 10, no. 1, 1975.
6. S.V.Patankar , M.Ivanoic , E.M.Sparrow, "Analysis of turbulent flow & heat transfer in internally finned tubes & Annuli," Journal of heat transfer, pp. 29-37, 1979.
7. R.F.Lopina , A.E.Bergles, "Heat transfer & Pressure drop in tape generated swirl flow of single phase water," Journal of heat transfer , pp. 435-441, 1969.
8. R.Sethumadhavan , M.Raja Rao, "Turbulent flow heat transfer & fluid friction in helical wire coil inserted tubes," Journal of heat mass transfer , pp. 1833-1845, 1982.
9. G.H.Junkhan , A.E.Bergles , V.Nirman , T.Ravigururajan, "Investigation of turbulators for fire tube boilers," Journal of Heat Transfer, pp. 354-360, 1985.
10. Shou Shing Hsieh , J.P.Harnett & W.J.Minkawycz, "Thermal correlation of turbulent flow over helical rough surface in horizontal Annuli," International Communication in Heat and Mass Transfer, vol. 16, no. 3, pp. 457-467, 1989.
11. Tulin Bali & Ayhan, "Experimental investigation of propeller type swirl generator for a pipe flow," International Communications in Heat and Mass Transfer, vol. 26, 1999.
12. R.Tharsen , F.Landis, "Friction & heat transfer characteristics in turbulent swirl flow subjected to large transverse temperature gradient," Journal of heat transfer, vol. 90, no. 1, pp. 87-97, 1968.
13. J.K.Hagge , G.H.Junkhan, "Mechanical augmentation of convective heat transfer in air," Journal of Heat Transfer, vol. 97, no. 4, pp. 516-520, 1975.
14. Webb , E.R.G.Eckert , R.J.Goldstain, "Heat transfer & Friction with repeated rib roughness," Int. Journal of heat transfer, vol. 14, no. 4, pp. 601-617, 1971.
15. D.F.Dipprey , R.H.Sabersky, "Heat & momentum transfer in smooth & rough tubes at various Prandtl numbers," Int Journal of Heat Transfer, vol. 6, no. 5, pp. 329-353, 1963.
16. M.Grenier , P.F.Fischer , H.M.Tufo, "Two dimensional simulations of enhanced heat transfer in an intermittently grooved channel," Journal of Heat Transfer, vol. 124, no. 3, pp. 538-545, 2002.
17. Young June Jang , Hamm Ching chen , Je chin Han, "Computation of flow & heat transfer in two pass channels with 60 deg ribs," Journal of Heat Transfer, vol. 123, no. 3, pp. 563-575, 2001.
18. Srinath V.Ekkad, Je-ChinHan, "Detailed heat transfer distributions in two-pass square channels with rib turbulators," International Journal of Heat and Mass Transfer, vol. 40, no. 11, pp. 2525-2537, 1997.
19. S.K.Saha , P.Langile, "Heat transfer & pressure drop characteristics laminar flow through a circular tube with longitudinal strip inserts under uniform wall heat flux," Journal of Heat Transfer, vol. 124, no. 3, pp. 421-432.
20. S.K.Saha , A.Dutta, "Thermo-hydraulic study of laminar swirl flow through a circular tube fitted with twisted tapes," Journal of heat transfer, vol. 123, no. 3, pp. 417-427, 2001.
21. J.H.Royal , A.E.Bergles, "Augmentation of horizontal in condensation by means of twisted tape inserts and internally finned tubes," Journal of heat transfer, vol. 100, no. 1, pp. 17-24, 1978.
22. H.Kolzu , B.B.Mikic , A.T.Petera, "Turbulent heat transfer augmentation using micro-scale disturbance inside the viscosity sublayer," Journal of heat transfer, vol. 114, no. 2, pp. 349-353, 1992.
23. J.P.Chiou, "Experimental investigation of augmentation of forced convection heat transfer in a circular tube using spiral spring inserts," Journal of heat transfer, vol. 109, no. 2, pp. 301-307, 1987.
24. S.B.Uttarwar , M.Raja Rao, "Augmentation of laminar heat flow heat transfer in tubes by means of wire coil inserts May 1985 – PP (931 - 935)," Journal of heat transfer, vol. 107, no. 4, pp. 931-935, 1985.
25. S.S.Hsieh , K.J.Jang , J.C.Tsai, "Evaporation heat transfer & pressure drop in horizontal tubes with strip type inserts using refrigerant 600a," Journal of heat transfer, vol. 122, no. 2, pp. 327-335, 2000.
26. T. M. Liou, C. C. Chen, T. W. Tsai, "Heat Transfer and Fluid Flow in a Square Duct With 12 Different Shaped Vortex Generators," J. Heat Transfer, vol. 122, no. 2, pp. 327-335, 2000.
27. W.J.Marner , A.E.Bergles , J.M.Chenoweth, "On the presentation of performance data for enhanced tubes used in shell & tube heat exchangers," Journal of heat transfer, vol. 105, no. 2, pp. 359-365, 1992.
28. R.Chaturvedi & Keshavkant, "Heat transfer – Augmentation via turbulence Promotion," Journal of Energy , Heat & mass transfer, pp. 15-21, 1992.
29. S.Heish , I.W.Hoang, "Heat transfer & pressure drop of laminar flow in horizontal tube with / without longitudinal inserts," Journal of heat transfer, vol. 122, no. 3, pp. 465-475, 2000.
30. R.C.Prasad, "Analytical solution for a double pipe heat exchanger with nonadiabatic condition at the outer surface," International Communication in Heat and Mass Transfer, vol. 14, no. 6, pp. 665-672, 1987.
31. V.N.Adrianov , Q.L.palyak, "Differential methods for studying radiant heat transfer," Int. Journal of heat mass transfer, vol. 6, no. 5, pp. 355-362, 1962.
32. M.J.Lewis, "An elementary analysis for predicting the momentum & heat transfer characteristics of a hydraulically rough surface," Journal of Heat Transfer, vol. 97, no. 2, pp. 249-254, 1975.
33. Stefano Piva , E.Hane & K.Spindler, "An analytical approach to fully developed heating of laminar flows in circular pipes “ , Vol 22 No.6 1995 - PP (815 - 823)," International Communications in Heat and Mass Transfer, vol. 22, no. 6, pp. 815-823.
34. F.D.Haynes , G.D.Ashton, "Turbulent heat transfer in large aspect channels," J. Heat Transfer. , vol. 102, no. 2, pp. 384-86, 1980.
35. H.M.Manglik , A.E.Bergles, "Heat transfer & pressure drop , correlation for twisted tape inserts in journal tube – Part 1 – Laminar flow," Journal of Heat Transfer, vol. 115, no. 4, p. 881 – 889, 1993.
36. T.Fujino , Y.Yokkoyama , Y.H.Mori , "Augmentation of laminar forced convective heat transfer by the Application of a Transverse Electric Field," Journal of heat transfer, vol. 111, no. 2, pp. 345-351, 1989.
37. E.Choi , Y.I.Cho, "Local & heat transfer behavior of water in turbulent pipe Flow with large heat flux at the wall," Journal of heat transfer, vol. 117, no. 2, pp. 283-287, 1995.
38. T.M.Liou , J.J.Hwang, "Turbulent heat transfer augmentation & friction in periodic fully developed channel flows," Journal of heat transfer, vol. 114, no. 1, pp. 57-63, 1992.
39. N.S.Gupte , A.W.Date, "Friction & heat transfer characteristics of helical turbulent air flow in annuli," Journal of heat transfer, vol. 111, no. 2, pp. 337-343, 1989.
40. R.I.Webb , R.Narayanamurti , P.Thors, "Heat transfer & friction characteristics of internal helical Rib – Roughness," Journal of heat transfer, vol. 122, no. 1, pp. 135-142, 2000.
41. A.G.Patil, "Laminar flow heat transfer pressure drop characteristics of power Law fluids inside tubes with varying width twisted type inserts," Journal of heat transfer, vol. 122, no. 1, pp. 143-149, 2000.
42. T.S.Ravigurajan , A.E.Bergles, "Prandtl number influence on heat transfer flow water at low temperature," Journal of heat transfer, vol. 117, no. 2, pp. 276-282, 1995.
43. R.M.Maglik , A.E.Bergles, "Heat transfer & pressure drop correlation for twisted tape inserts in tubes – Part 2 – Transition & turbulent flows," Journal of Heat Transfer, pp. 890-896, 1993.
44. Liang – B – Wang , Wen – Quan Tao , Qiu – Wang Wang , Y.A.Ling H.E, "Experimental & numerical study of turbulent heat transfer in twisted square duct," Journal heat transfer, pp. 868-877, 2001.

27.	Authors:	Slim Dhahri, Essia Ben Alaïa	145-154
	Paper Title:	Robust Fault Estimation and Fault-Tolerant Control Based on Sliding Mode Observer for Takagi-Sugeno Fuzzy Systems Subject to Actuator and Sensor Faults	
Abstract: In this paper, the problems of fault estimation and fault-tolerant control for Takagi-Sugeno fuzzy system affected by simultaneous actuator faults, sensor faults and external disturbances are investigated. Firstly, an adaptive fuzzy sliding-mode observer is designed to simultaneously estimate system states and both actuator and sensor faults. Then, based on the online estimation information, a static output feedback fault-tolerant controller is designed to compensate for the effect of faults and to stabilize the closed-loop system. Moreover, sufficient conditions for the existence of the proposed observer and controller with an H_∞ performance are derived based on Lyapunov stability theory and expressed in terms of linear matrix inequalities. Finally, a nonlinear inverted pendulum with cart system application is given illustrate the validity of the proposed method.			
Keywords: Fault estimation, sliding mode observer, static output feedback fault-tolerant controller, Takagi-Sugeno fuzzy system.			
References:			
<ol style="list-style-type: none"> 1. S. Abdelmalek, M.A. Azar, and D. Dib, "A novel actuator fault-tolerant control strategy of DFIG-based wind turbines using Takagi-Sugeno multiple models," <i>Int. J. Control Autom. Syst.</i>, vol. 16(3), pp. 1415–1424, 2018. 2. J. Wang, "H_∞ fault-tolerant controller design for networked control systems with time-varying actuator faults," <i>International Journal of Innovative Computing</i>, vol. 11, pp. 1471–1481, 2015. 3. H. Azmi, and M. J. Khosrowjerdi, "Robust adaptive fault tolerant control for a class of lipschitz nonlinear systems with actuator failure and disturbances," <i>Journal of Systems and Control Engineering</i>, vol. 230(1), pp. 13–22, 2015. 4. Y. Tian, and F. Zhu, "Fault estimation and observer based fault-tolerant controller in finite frequency domain," <i>Transactions of the Institute of Measurement and Control</i>, vol. 40(5), pp. 1659-1668, 2017. 5. L. Chen, X. Huang, and M. Liu, "Observer-based piecewise fault-tolerant control for discrete-time nonlinear dynamic systems," <i>Asian Journal of Control</i>, vol. 19 (6), pp. 2051–2061, 2017. 6. J. Dong, and J. Hou, "Output feedback fault-tolerant control by a set theoretic description of T-S fuzzy systems," <i>Applied Mathematics and Computation</i>, vol. 301, pp. 117–134, 2017. 7. H. Li, F. You, F. Wang, and S. Guan, "Robust fast adaptive fault estimation and tolerant control for T-S fuzzy systems with interval time-varying delay," <i>International Journal OF Systems Science</i>, vol. 48 (8), pp. 1708–1730, 2017. 8. R. Shahnazi, and Q. Zhao, "Adaptive fuzzy descriptor sliding mode observer-based sensor fault estimation for uncertain nonlinear systems," <i>Asian Journal of Control</i>, vol. 18 (4), pp. 1478-1488, 2016. 9. J. Han, H. Zhang, Y. Wang, and X. Liu, "Robust fault estimation and accommodation for a class of T-S fuzzy systems with local nonlinear models," <i>Circuits Syst. Signal Process</i>, vol. 5, pp. 3506–3530, 2016. 10. T. Youssef, M. Chadli, H. Karimi, and R. Wang, "Actuator and sensor faults estimation based on proportional integral observer for T-S fuzzy model," <i>Journal of the Franklin Institute</i>, vol. 354 (6), pp. 2524–2542, 2017. 11. X. Li, D. Lu, G. Zeng, J. Liu, and W. Zhang, "Integrated fault estimation and non-fragile fault-tolerant control design for uncertain Takagi-Sugeno fuzzy systems with actuator fault and sensor fault," <i>IET Control Theory and Applications</i>, vol. 11(10), pp. 1542–1553, 2017. 12. A. B. Brahim, S. Dhahri, F. B. Hmida, and A. Sellami, "H_∞ sliding mode observer for Takagi-Sugeno nonlinear systems with simultaneous actuator and sensor faults," <i>International Journal of Applied Mathematics and Computer Sciences</i>, vol. 25(3), pp. 547-559, 2015. 13. A. B. Brahim, S. Dhahri, F. B. Hmida, and A. Sellami, "Simultaneous actuator and sensor faults reconstruction based on robust sliding mode observer for a class of nonlinear systems," <i>Asian Journal of Control</i>, vol. 19(1), pp. 1–10, 2017. 14. E. Kamal, A. Aitouche, and D. Abbes, "Robust fuzzy scheduler fault tolerant control of wind energy systems subject to sensor and actuator faults," <i>International Journal of Electrical Power and Energy Systems</i>, vol. 55, pp. 402-419, 2014. 15. C. Edwards, and S. Spurgeon, <i>Sliding mode control: theory and applications</i>, Taylor and Francis: London, 1998. 16. V. Utkin, <i>Sliding mode in control optimization</i>, Springer: Berlin, 1992. 17. K. Tanaka, and H. Wang, <i>Fuzzy control systems design and analysis: a linear matrix inequality approach</i>, Wiley, New York, USA, 2001. 18. Z. Gao, and P. J. Antsaklis, "Stability of the pseudo-inverse method for reconfigurable control systems," <i>Int. J. of Control</i>, vol. 53, pp. 717-729, 1991. 19. H. Moodi, and M. Farrokhi, "On observer-based controller design for Takagi-Sugeno systems with unmeasurable premise variables," <i>ISA Transactions</i>, vol. 53(2), pp. 305–316, 2014. 20. T. Dang, W. Wang, L. Luoh, and C. Sun, "Adaptive observer design for the uncertain Takagi-Sugeno fuzzy system with output disturbance," <i>IET Control Theory Applications</i>, vol. 6(10), pp. 1351-1366, 2011. 21. K. Ogata, <i>Modern control engineering</i>, 3rd ed. Englewood Cliffs, NJ: Prentice-Hall, 1997. 			
28.	Authors:	Anuja Bhondve, Shweta Koparde, Vaishali Latke	155-160
Paper Title:		Effective Revisable Data Hiding in Encrypted Image for Protection of Image Content	
Abstract: In this article, we propose a reversible method for hiding data, in which the original image and hidden data can be restored on the receiving side. The owner encrypts the original image using an encryption key to protect the privacy of the image content. Each block of encrypted image is added to the little secret by Hider data using the key data hiding. Data hiding process causes only a small change in each partial pixel flip block, which improves decoded image visual quality. The image can be easily decoded receiver using the key, data encryption key to hide the adaptive soft characteristic of the evaluation function along the direction of the isophote, the secret data can be extracted from a decoded image and original image recovery can be restored more successfully.			
Keywords: Privacy protection, Reversible data hiding, encrypted images, decrypted images, image recovery.			
References:			

1. Z. Tang, x. Zhang and f. Wang, "image encryption based on random projection partition and chaotic system", *multimed. Tools appl.* 2016.
2. U. Hayat, and n. Azam, "a novel image encryption scheme based on an elliptic curve", *signal process.* 2019.
3. Goljan. M and fridrich. J, "lossless data is embedding for all image formats", in: *spie proc. Photonics west, electronic imaging*, 2002.
4. Tian. J, "reversible data embedding using a difference expansion", *iee trans*, 2003.
5. Ansari n, y. Shi, ni. Z, and su. W, "reversible data hiding", *iee trans. Circuits-* 2006.
6. Li. B, yang. B, li. X, zeng. T.y, "general framework to histogram-shifting-based reversible data hiding", *iee trans-2013*.
7. Rodriguez. Jj and thodi. M, "expansion embedding techniques for reversible watermarking", *iee trans-2007*.
8. Xiong. G, cai. Z.c and weng. S.w, "reversible data hiding using multi-pass pixel-value-ordering and pair wise prediction-error expansion", *inf. Sci.-2018*.
9. Li. L, ni. R, zhao. Y and ou. B, "pair wise prediction-error expansion for efficient reversible data hiding", *iee trans-2013*.
10. Yang. B, zhang. M, gui. X, and li. X, "efficient reversible data hiding based on multiple histograms modification", *iee trans-2015*.
11. chang. C, liao. L, huang. Y, qin. C, "an inpainting-assisted reversible steganographic scheme using a histogram shifting mechanism", *iee trans-2013*.
12. Chaumont. M, puech. W, strauss. O, "a reversible data hiding method for encrypted images", in: *proceedings of spie-* 2008.
13. Zhang. X.p, "reversible data hiding in encrypted image", *iee signal process-2011*.
14. Hong. W, chen. T and wu. H, "an improved reversible data hiding in encrypted images using side match", *iee-2012*.
15. Huang. J and shi. Y, "new framework for reversible data hiding in encrypted domain", *iee trans-2016*.
16. Xiong. G, cai. Z, weng. S, and, y.m. Wang, "reversible data hiding using multi-pass pixel-value-ordering and pair wise prediction-error expansion", *inf. Sci-2018*.
17. Li. B, yang. B, li. X, and zeng. X, "general framework to histogram-shifting-based reversible data hiding", *iee trans-2013*.
18. Pun. C and liu. Z, "reversible data-hiding in encrypted images by redundant space transfer", *inf. Sci-2018*.
19. X. Zhang, "reversible data hiding in encrypted image". *Ieee signal process-* 2011.
20. W. Sun, o. Au, l. Dong, j. Zhou, x. Liu, "secure reversible image data hiding over encrypted domain via key modulation". *Ieee trans-* 2015.
21. X. Zhang, and qian. Z, "reversible data hiding in encrypted image with distributed source encoding", *iee trans-* 2015.
22. W. Zhang, zhao, k. Ma, f. Li, n. Yu, "reversible data hiding in encrypted images by reserving room before encryption", *iee trans-* 2013.
23. K. Ma, w. Zhang, and n. Yu, "reversibility improved data hiding in encrypted images", *signal process-2014*.
24. C. Chang, s. Nguyen, and w. Chang, "high capacity reversible data hiding scheme for encrypted images", *signal process-2016*.
25. Du. L, meng. D, wei. X, cao. X, and guo. X, "high capacity reversible data hiding in encrypted images by patch-level sparse representation", *iee trans-2016*.
26. Puteaux. P, and puech. W, "an efficient msb prediction-based method for high-capacity reversible data hiding in encrypted images", *iee trans-2018*.
27. D. Xiao, z. Peng, m. Li, and h. Nan, "a modified reversible data hiding in encrypted images using random diusion and accurate prediction". *Etri j-* 2014.
28. Z. Yin, y. Puyang and z. Qian, "reversible data hiding in encrypted images with two-msb prediction", *iee december* 2018.
29. W. Puech, and p. Puteaux, "an eient msb prediction-based method for high-capacity reversible data hiding in encrypted images". *Ieee trans-* 2018.
30. L. Du, x. Cao, w. Guo, x. Wei, "high capacity reversible data hiding in encrypted images by patch-level sparse representation", *iee trans-2016*.
31. J. Long, z. Wang, and h. Cheng, "lossless and reversible data hiding in encrypted images with public-key cryptography", *iee trans-2016*.
32. X. Zhang, z. Tang, c. Yu, c. Xie, and x. Xie, "separable and error-free reversible data hiding in encrypted image based on two-layer pixel errors". *Ieee access-2018*.
33. W. Stalling, "cryptography and network security: principles and practice", 3rd ed.; prentice-hall: upper saddle river, nj, usa, 2003.
34. T. Furon, and p. Bas, "image database of bows-2", available online: <http://bows2.ec-lille.fr/> (accessed on 20june 2017).
35. Sun. W, and wu. X, "high-capacity reversible data hiding in encrypted images by prediction error", *signal process-2014*.
36. Shen. J, wang. Y and hwang. M, "a novel dual image-based high payload reversible hiding technique using lsb matching", *int. J. Network secur-*2018.
37. Xiang. Y, zheng. H, xiao. D and wang. Y, "separable reversible data hiding in encrypted image based on pixel value ordering and additive homomorphism", *j. Visual commun. Image represent-*2017.
38. Zhang. X, "reversible data hiding in encrypted image", *iee signal process lett-*2011.
39. Zhang. X, "separable reversible data hiding in encrypted image", *iee trans-*2012.
40. Ma. K, zhang. W and yu. H, "reversibility improved data hiding in encrypted images", *signal process-2014*.
41. Au. O, sun. W, dong. L, zhou. J, liu. X, and tang. Y, "secure reversible image data hiding over encrypted domain via key modulation", *iee trans-*2016.

29.	Authors:	Janarthanan R, Sreevidya V	
	Paper Title:	Strength Enhancement on Mechanical Properties of Geopolymer Concrete with Magnetized Water and Recycled Coarse Aggregate	
	Abstract:	Cement is probably the mostly widely used construction material in the world. However, the production of cement releases CO ₂ into the air. Greenhouse effect is mainly caused by carbon- di-oxide. Hence, there is a need to develop sustainable alternatives to Portland cement. One of the suitable alternatives is usage of Geo-Polymer Concrete (GPC) which is made from utilization of waste materials like fly ash and ground granulated blast furnace slag (GGBS) with suitable alkali activators. In general, chemical admixtures are added to get concrete with increased strength. The chemical admixtures for increasing the strength are not easily accessible in rural areas. The fresh and hardened properties of concrete are improved by using magnetic water. The scaling and corrosion are greatly reduced using magnetic water. It is due to the change in microstructure of water molecules making it soft water. Further, recycled coarse aggregate was used with coarse aggregate in the study. The specimens were cast and were investigated for Compressive strength, Split Tensile strength and Flexural strength test after 7 days and 28 days of ambient curing. It was observed that Compressive, Split Tensile and Flexural strength of the GPC specimen with magnetic water increased compared to other mix proportions.	161-165
	Keyword:	Cement, Corrosion, Geo-polymer, Magnetic water.	
	References:		

1. H.Afshin, M.Gholizadeh and N.Khorshidi, "Improving Mechanical Properties of High Strength Concrete by Magnetic Water Technology", Scientia Iranica, vol. 17, pp. 74-79, 2010.
2. Nan Su, Yeong- Hwa Wu, Chung – Yo Mar, "Effect of magnetic water on the engineering properties of concrete containing granulated blast furnace slag", Cement and concrete research, vol. 30, pp. 599- 605, 2000.
3. Sadam Ahmed, "Effect of Magnetic Water on Engineering Properties of Concrete", Al-Rafidian Engineering, vol. 17, pp. 71-82, 2009.
4. H.Afshin, M.Gholizadeh and N.Khorshidi, "The Improving Mechanical Properties of High Strength Concrete by Magnetic Water Technology", Transaction A: Civil Engineering , vol. 17, pp. 74-79, 2010.
5. Ali Faris, Riadh Al- Mahaidi, Awad Jadooe, "Implementation of Magnetized water to improve the properties of concrete." International Journal of Civil Engineering and Technology , vol. 5, pp. 43-57, 2014.
6. P.Sivakumar, E.Poornima, " Experimental Study on Strength Enhancement of Concrete using Magnetic and Normal Water", International Journal of Engineering Research & Technology, vol. 4, pp. 1-5, 2016.
7. Malathy, Karuppasamy and Barnidharan, "Effect of Magnetic Water on Mixing and Curing of M25 Grade Concrete", International Journal of ChemTech Research, vol. 10, pp. 131-139, 2017.
8. Taghried Isam Mohammed Abdel-Magid, Rbab Mohammed Hamdan, Abeer Abdelrahman Bukhari Abdelgader, Mohammed Emadeldin Attaelmann Omer and Najla'a Mohammed Rizg-Allah Ahmed (2017), "Effect of Magnetized Water on Workability and Compressive Strength of Concrete", Procedia Engineering , vol. 193, pp. 494-500, 2017.
9. Srinivasa Reddy, Kranthi Kumar and Sumanth, " Effect of Magnetic Field Treated Water on Fresh and Hardened Properties of Concrete", Journal of Civil Engineering and Environmental Technology , vol. 4, pp. 134-138, 2017.
10. Saied Ghorbani , Mostafa Gholizadeh and Jorge de Brito, " Effect of Magnetized Water on the Mechanical and Durability Properties of Concrete Block Pavers" Materials , vol. 11, pp. 1-16, 2018

30.

Authors:

Mayur Nikhar, Laxman .P. Thakre

Paper Title:

Smart Agricultural Farm Enhancement with K-Means Learning

Abstract: In the modern learning of Machine has to be emerged in the gather with large data technology and with respective Large to performance computing to indicate. Classing cluster is a grouping of information and its objects that are identical to one another and different to the information objects in another clusters property are added in new opportunities that things for data science for recommendation in recognized the multi-disciplinary or large descriptive way such many Agri-technologies and domain. This paper comprehensive review marginal shows that research to applications and more than of machines and its application learning in agricultural production systems is forward to conduction. Data mining is a specific field of computer and information science with substantial point of view of knowledge discovery from expansive database or dataset. Resulted formation works carried out forming were categorized top to bottom in form crop indication and result Segregation, including used on yield prediction filed, forming disease Mestagestic, detection crop and weed management and quality, and livestock management, species recognition Devises, along with applications on animal welfare and live detection and stock production soil management and water management. Rest of K-means algorithm for examination of fertility of soil Ratio are objective and Resolve the Continuity amount estimating implementation and algorithm's high time complexity. In crop method filtering results obtain classification of various crops the presented paper demonstrates forming how farming will improved with the help machine learning methods are used. In the case of resection K-means algorithm is utilize to cluster and Marathwada town soil nutrient information for Six successive year clustering outcomes show that the precision rate raised ratio is year by year The Remote location applying machine such as GIS and GPS learning to sensor information, field management systems are more accurate to developing into real-time AI authorize plans and sentimental values that supports rich suggestion and awareness for farmer choice action and support. The Resultant of this paper are compared and modern the performance of commonly used classical and analytical k-means clustering procedures as well as parallel k-means clustering to realize formation the advantage of the parallelism of algorithm on agricultural data. The present investigation has been taken up to achieve the above-mentioned goal.

166-170

Keywords: Algorithms Advantages, Clustering, Crop Adverted, Data Driven Farm Management, K means Algorithm, water management.

References:

1. .BarsheP.S.B and P.D.K. Chitre, "AgricultureSystem based on OntologyAgroSearch", (IJETA) International Journal of Emerging Technology and Advanced Engineering, vol. 2, no. 8, 2012.
2. Braun, R. Wichert, A. Kuijper, and D. W. Fellner, "A benchmarking model for sensors in smart environments," in Ambient Intelligence: European Conference, (AmI '14), Eindhoven, The Netherlands, November 2014. Revised Selected Papers, E. Aarts, B. de Ruyter, P. Markopoulos et al., Eds., pp. 242–257, 2014
3. FarooqM.U, "A Review on Internet of Things (IoT)", Muhammad Waseem, SadiaMazhar, International Journal of Computer Applications Volume 113 -No. 1, March 2015.
4. InfantialRubala. J, D. Anitha, "Agriculture Field Monitoring using Wireless Sensor Networks to Improving Crop Production" International Journal of Engineering Science and Computing, March 2017.
5. Jianfa Xia, Zhengzhou Tang, Xiaoqiu Shi, Lei Fan, Huaizhong Li, "An environment monitoring for precise agriculture, based on wireless sensors Network", IEEE, 2011 8. S.ShyamSundarB.Balan, "Sensor BasedSmart Agriculture Using IOT", International Journal of MC Square Scientific Research, 2017 .
6. M.Soundarya, R.Balakrishnan," Survey on Classification Techniques in Data mining", International Journal of Advanced Research in Computer and Communication Engineering Vol. 3, Issue 7, July 2014.
7. Askar Choudhury, Illinois State University James Jones, Illinois State University Crop yield prediction using time series models
8. Debasish Basak, et al., "Support Vector Regression," Neural Information Processing – Letters and Reviews, Vol. 11, No. 10, 2007.
9. EkataGhadage, VibhavariKharate, Parnika Mane, SamruddhiPimpale," Smart Irrigation and Crop Planning System:usingArduino Microcontroller", International Journal of Advanced Research in Computer and Communication Engineering, Vol. 6, Issue 1,

	January 2017, DOI 10.17148/IJARCCCE.2017.6186.		
	Authors:	K.S.N Sai Abhishek, S. Rahul Guptha, V. Shashank Srivatsav, Boopathi M.	
	Paper Title:	Unmanned Grounded Vehicle for Surveillance and Infiltration	
	<p>Abstract: Surveillance in remote areas can prove to be a difficult task due to the risk of safety. Therefore, this project is aimed to develop a robot that can be used for both surveillance and infiltration purposes. It is a land-based system where rear and front wheels are used as a form of locomotive control. It is an unmanned vehicle where it is controlled with the help of Bluetooth through either phone or laptop. This robot can also differentiate between friend and foe mainly with the help of image processing. By implementing this robot, one can substitute military personnel on the battlefield which can save many lives. It can also reduce human effort and error during war times.</p> <p>Keywords: image processing, autonomous robot, dc motors, servo motors, Bluetooth module (HC-05)</p>		
31.	References:	<ol style="list-style-type: none"> 1. Sengupta, S., 2009. Dossier gives details of Mumbai attacks. The New York Times, 6. 2. Karthikeyan, T.V. and Kapoor, A.K., 1991. Guided Missiles. Defence Scientific Information & Documentation Centre, Defence Research & Development Organisation, Ministry of Defence. 3. Ali, A., Kausar, H. and Muhammad, I.K., 2009, January. Automatic visual tracking and firing system for anti aircraft machine gun. In 6th International Bhurban Conference on Applied Sciences & Technology (pp. 253-257). IEEE. 4. Joshi, S.A., Tondarkar, A., Solanke, K. and Jagtap, R., 2018. Surveillance robot for military application. International Journal Of Engineering And Computer Science, 7. 5. Navada, B.R., Santhosh, K.V., Prajwal, S. and Shetty, H.B., 2014, November. An image processing technique for color detection and distinguish patterns with similar color: An aid for color blind people. In International Conference on Circuits, Communication, Control and Computing (pp. 333-336). IEEE. 6. Kashif, M., Arslan, M., Chakma, R., Banoori, F., Al Mamun, A. and Chakma, G.L., 2018. Design and Implementation of Image Capture Sentry Gun Robot. In MATEC Web of Conferences (Vol. 160, p. 06007). EDP Sciences. 7. Jain, K. and Suluchana, V., 2013. Design and Development of Smart Robot Car for Border Security. International Journal of Computer Applications, 76(7), pp.23-29. 8. Rao, G.A. and Mahulikar, S.P., 2005. New criterion for aircraft susceptibility to infrared guided missiles. Aerospace science and technology, 9(8), pp.701-712. 	171-174
32.	Authors:	Bhavana R, Rakshitha S G, Rajashree Shettar, Minal Moharir	
	Paper Title:	Microservice Architecture using ASP.NET Core	
	<p>Abstract: Microservice architecture is a variation of the structured form of service-oriented architecture that arranges an application a series of loosely coupled services. This is a self-contained process that takes advantage of specific and unique business capabilities. The Microservice architecture approach provides many advantages in terms of scalability and flexibility. Microservices can be built by either dotnet framework solution (such as asp.net and asp.net web Api) or use solutions based on a core Microsoft dotnet framework (such as asp.net core). This paper presents an overview of Microservice architecture along with its advantages and disadvantages. We have also presented why ASP.NET core can be used instead of ASP.NET to build Microservices.</p> <p>Keywords: Microservice Architecture, ASP.NET core Scalability, Services, Flexibility.</p>		175-178
	References:	<ol style="list-style-type: none"> 1. Mohamed Elkholy and Ahmed Elfatry, "Change Taxonomy: A Fine-Grained Classification of Software Change", IT Professional, vol. 20, 2018. 2. Pooyan Jamshidi, Claus Pahl, Nabor das Mendonca, James Lewis and Stefan Tilkov "Microservices: The Journey So Far and Challenges Ahead" IEEE Software, vol. 35, 2018. 3. Ahmed Elfatry, "Microservices: A Review of the Costs and the Benefits", The Fifth International Conference on Advances and Trends in Software Engineering, 2019. 4. Dmitry Namiot, Manfred Sneps-Sneppe, "On Micro-services Architecture", International Journal of 5. Open Information Technologies, vol. 2, no.9, 2014. 6. S. Newman, "Building Microservices", CA: O'Reilly Media, 2015. 7. Scott Green, "How to Build Microservices: Top 10 Hacks to Modeling, Integrating & Deploying Microservices", 2015. 8. Andy Singleton, "The Economics of Microservices", IEEE Cloud Computing, vol. 3, 2016. 9. Cesare Pautasso, Olaf Zimmermann, Mike Amundsen, James Lewis, and Nicolai Josuttis, "Microservices in Practice, Part 2: Service Integration and Sustainability", IEEE Software, 2017. 10. David Linthicum, "Practical Use of Microservices in Moving Workloads to the Cloud", IEEE Cloud Computing, vol. 3, 2016. 11. Cheng Zeng, Zhou Lu, Jian Wang, Patrick C.K. Hung, and Jilei Tian, "Variable Granularity Index on Massive Service Processes", IEEE 20th International Conference on Web Services, 2013. 12. Johannes Thosnes, "Microservices", IEEE Software, 2015. 13. Sanjina Shakya "Cross Platform Web Application Development using ASP.NET CORE" St.CloudState University on 2018. 14. Andy Neumann, Nuno Laranjeiro, Jorge Bernardino "An Analysis of Public REST Web Service APIs" IEEE on journal name, Manuscript ID on 2018. 15. A.V. Kravets, I.V. Ponomarev "Developing web applications on the platform ASP.NET CORE" <<Системні технології>> 1 (126) 2020 <<System technologies>> ISSN 1562-on 2020. 16. Charbeneau, E., Bristowe, J., & Basu, S. (2017). "How the new .NET Standard is making you a better developer" https://www.paceit.co.uk/content/uploads/2016/06/the-state-of-dotnet-in-2018.pdf. 17. Steve smith, "Overview of ASP.NET CORE MVC" on 2017 online paper. 18. .NET Core and .NET Framework for server apps / [Electronic resource]. -Accessmode:https://docs.microsoft.com/enus/dotnet/standard/choosing-core-framework-server. 19. B. Mulloy, "RESTful API Design" [Online] [Accessed: 18-Jan-2018]. 20. B. Costa, P. F. Pires, F. C. Delicato, P.Merson, "Evaluating a REST IEEE/IFIP Conference on Software Architecture", on 2014. 	

		<p>21. C. Rodríguez et al., "REST APIs" in Web Engineering, vol. 9671, A. Bozzon, P. Cudre-Maroux, and C. Pautasso, Eds. Cham: Springer International Publishing, 2016, pp. 21–39.</p> <p>22. M. Maleshkova, C. Pedrinaci, and J. Domingue, "Investigating Web APIs on the World Wide Web," in 2010 Eighth IEEE European Conference on Web Services, 2010.</p>	
	Authors:	Natalia Kalkova, Olga Yarosh, Ella Mitina, Vyacheslav Khokhlov	
	Paper Title:	Asymmetry of Visual Perception When Choosing Products: Methods and Algorithms of Neuromarketing	
33.	Abstract:	<p>Consumer behavior is a complex and multi-step process. It is necessary to study consumer choice with different alternatives and choice parameters, which will allow us to identify behavioral characteristics in different demographic groups. The article deals with theoretical and practical issues of consumer behavior when choosing food. The article uses classical marketing methods and neuromarketing approaches. Based on this comprehensive approach, an assessment of the structure of food consumption was carried out, as well as a pilot study of the characteristics of consumer choice depending on gender characteristics. The study of statistical data showed that the decline in real incomes of the population in Russia affected the structure of food consumption. There is a decrease in the volume of demand for meat, vegetables, and fruits, which is associated with a decrease in the population's ability to pay and an increase in the level of poverty. Gender characteristics in the consumer's preferred and actually purchased products were identified using the neuromarketing research methodology. Thus, it was determined that the speed of decision-making when choosing products is higher for women than for men, since women are more frequent buyers. The high speed of decision-making by women is most likely a result of emotional choice of products. Using visual advertising signals can increase attention to incentives and increase motivation. It was also found that in the absence of external restrictions: the number of products chosen and sufficient financial resources, women consumers are strongly influenced by internal restrictions, but men tend to take risks. Women try to be Thrifty, choosing a standard set of products that make up their diet, men in conditions of unlimited financial resources tend to buy expensive goods without thinking about the costs. The study of consumer choice between those products that were visually noticed and those that were selected as a result of the survey showed that there is a significant asymmetry between what is desired and what is chosen. To assess the level of asymmetry of visual attention, we proposed a method for assessing the asymmetry of consumer preferences, the use of which allows us to assess the gap between the desired and purchased goods. Based on the coefficient of asymmetry of consumer preferences, it is possible to assess the level of consumer imbalance and timely prevent social and economic dissatisfaction in different gender groups. The possibility of changing consumer choice under the influence of various stimulating factors is proved. The results obtained can be used in the practical activities of food retailers and food manufacturers when promoting their products with gender differences in mind. The results also need to be taken into account when developing government strategies for developing the food market and supporting healthy lifestyles and changing consumer culture.</p>	179-187
	Keywords:	consumer, consumer behavior, consumer choice, neuromarketing, asymmetry	Funding: The research was funded by the Russian Foundation for Basic Research, project number № 20-010-00473 A
	References:	<ol style="list-style-type: none"> 1. M. Conner, C.J. Armitage, The social psychology of food, Open University Press, Buckingham, United Kingdom, 2002, 175 p. 2. D. Ariely, Predictably Irrational: The Hidden Forces That Shape Our Decisions, Ed. New York: HarperCollins, 2008, 304 p. 3. D. Kahneman, A. Tversky, Choices, Values, and Frames, Cambridge: Cambridge University Press, 2000, 860 p. 4. V. Mamaeva, Gender characteristics of consumer behavior, Vestnik TGEU, 3, 2012, pp. 87-97. 5. R.M. Rajabkadiyev, V.S. Evstratova, K.V. Elective, R.A. Khanferyan Age and gender characteristics of macronutrient consumption by the population of the Russian Federation, Vestnik RUDN, Medicine, vol. 23, 2, 2019, pp. 197-202. 6. L.P. Piskunova, A.A. Karmanov, Consumer Behavior: Theoretical and Methodological Foundations of Study, Economy: yesterday, today, tomorrow, 9-10, 2012, pp. 25-46. 7. Republic of Crimea in numbers. 2018: Brief statistical digest, Krymstat - Simferopol, 2019, 205 p. 8. TOBII Pro. 2018. "How do Tobii Eye Trackers work?" University of Guelph. 2015. "General Information-CUDO 2015." Available: https://www.uoguelph.ca/iar/cudo/general. 9. M. Wedel, R. Pieters, Eye-Tracking for Visual Marketing. Foundations and Trends in Marketing, 2006, 1(4), pp. 1–81. 10. M. Wedel, R. Pieters, A Review Of Eye-Tracking Research in Marketing. Review of Marketing Research, 2008, 4, pp. 123–147. 11. M. S. Castelhana, M. L. Mack, J. M. Henderson, Viewing task influences eye movement control during active scene perception, Journal of Vision, 9, 2009, pp. 1-15. 12. A. Duchowski, Eye tracking methodology: Theory and practice, Duchowski A., Berlin- Heidelberg: Springer, 2007, pp. 144–158. 13. R.J. Jacob, K.S. Karn, Eye tracking in human-computer interaction and usability research: Ready to deliver the promises. Mind 2(3), 4, 2003, pp. 573–604. 14. Swarna Bakshi. Impact of gender on consumer purchase behavior. Available: https://www.academia.edu/7953578/IMPACT_OF_GENDER_ON_CONSUMER_PURCHASE_BEHAVIOUR 15. J. M. Henderson, Human gaze control during real-world scene perception. Trends in Cognitive Sciences, 7, 2003, pp. 498–504. 16. M. S. Castelhana, J. M. Henderson, The influence of color on the perception of scene gist. Journal of Experimental Psychology: Human Perception and Performance, 34, 2008, pp. 660–675. 17. S. Shimojo, C. Simion, S. Shimojo, Scheier. Gaze bias both reflects and influences preferences. Nature Neuroscience 6, 2003, pp. 1317-1322. 18. K. Rayner, Eye movement in reading and information processing: 20 years of research. Psychological in, 124, 1998, pp. 372-422. 19. J. E. Russo, Eye fixations can save the world: A critical evaluation and a comparison between eye fixations and other information processing methodologies. Advances in consumer research, 5(1), 1978, pp. 561–570. 	
34.	Authors:	Ashraf M. A. Shrawai, Ateaya B. Azeez	
	Paper Title:	Correction of Very High-Resolution Satellite Images using Control Points Captured by Web Map Service (WMS) server: Google Earth	
	Abstract:	The recent progress for spatial resolution of remote sensing imagery led to generate many types of	188-194

Very High-Resolution (VHR) satellite images, consequently, general speaking, it is possible to prepare accurate base map larger than 1:10,000 scale. One of these VHR satellite image is WorldView-3 sensor that launched in August 2014. The resolution of 0.31m makes WorldView-3 the highest resolution commercial satellite in the world. In the current research, a pan-sharpen image from that type, covering an area at Giza Governorate in Egypt, used to determine the suitable large-scale map that could be produced from that image. To reach this objective, two different sources for acquiring Ground Control Points (GCPs). Firstly, very accurate field measurements using GPS and secondly, Web Map Service (WMS) server (in the current research is Google Earth) which is considered a good alternative when GCPs are not available, are used. Accordingly, three scenarios are tested, using the same set of both 16 Ground Control Points (GCPs) as well as 14 Check Points (CHKs), used for evaluation the accuracy of geometric correction of that type of images. First approach using both GCPs and CHKs coordinates acquired by GPS. Second approach using GCPs coordinates acquired by Google Earth and CHKs acquired by GPS. Third approach using GCPs and CHKs coordinates by Google Earth. Results showed that, first approach gives Root Mean Square Error (RMSE) planimetric discrepancy for GCPs of 0.45m and RMSE planimetric discrepancy for CHKs of 0.69m. Second approach gives RMSE for GCPs of 1.10m and RMSE for CHKs of 1.75m. Third approach gives RMSE for GCPs of 1.10m and RMSE for CHKs of 1.40m. Taking map accuracy specification of 0.5mm of map scale, the worst values for CHKs points (1.75m&1,4m) resulted from using Google Earth as a source, gives the possibility of producing 1:5000 large-scale map compared with the best value of (0.69m) (map scale 1:2500). This means, for the given parameters of the current research, large scale maps could be produced using Google Earth, in case of GCPs are not available accurately from the field surveying, which is very useful for many users.

Keywords: WorldView-3, Very high-resolution satellite images, Geometric correction, GPS, Web Map Service (WMS) server, Google Earth.

References:

1. Z. Ali, A. Tuladhar and J. Zevenbergen, "An integrated approach for updating cadastral maps in Pakistan using satellite remote sensing data". *Int. J. Appl. Earth Obs. Geoinf.* 2012; 18:386–98.
2. J. Anderson and E. Mikhail, "Introduction to Surveying", International Student Edition, McGraw, Hill Book Co., Singapore, 1998.
3. ASPRS, "ASPRS ACCURACY STANDARDS FOR LARGE-SCALE MAPS", American Society for Photogrammetry and Remote Sensing (ASPRS), (http://www.asprs.org/a/society/committees/standards/1990_jul_1068-1070.pdf).
4. G. Jamebozorg, Z. Valadan and S. Sadeghian, "The revision of iranian 1:25000 scale topographic maps by KVR-1000 image using rational function model". *Proceedings of the joint ISPRS workshop on high resolution mapping from space, 2003, 6–8 Oct, Hannover, Germany, 2003.*
5. A. John and A. Richards, "Remote Sensing Digital Image Analysis", Library of Congress, London, p56 (2013).
6. JRC, "New sensors benchmark report on WorldView-3". Technical report by the Joint Research Centre, the European Commission's in-house science service (2015). Geometric benchmarking over Maussane test site for CAP purposes.
7. L. Fenstermaker, "Remote Sensing Thematic Accuracy Assessment: A Compendium", American Society for Photogrammetry and Remote Sensing, Maryland, USA (1994).
8. A. Ghosha and P. Joshia, "Assessment of pan-sharpened very high resolution WorldView-2 images". *Int. J. Remote Sens.* 2013; 34(23):2013.
9. D. Kapnias, P. Milenov and S. Kay, "Guidelines for Best Practice and Quality Checking of Ortho Imagery". JRC Scientific and Technical Report. Institute for the Protection and Security of the Citizen, Joint Research Centre, European Commission. EUR 23638 EN - 2008.
10. M. Nassar, M. El-Maghraby, A. Fayad and K. Abdel Mageed, "Can post processed GPS kinematic surveying technique replace the traditional surveying methods for producing and updating engineering maps", *The Scientific Engineering Bulletin, Faculty of Engineering, Ain Shams University, Vol. 36, No. 4, June 2002, Cairo, Egypt.*
11. PIX4D, "How to obtain the georeference using 2D or 3D GCPs taken from a Web Map Service". PIX4D Software Documentation (<https://www.pix4d.com/>), 2020.
12. A. Ramzy, "Evaluation feature extracting from DubaiSat-2 satellite images over planned/unplanned complex study area in Egypt". *Ain Shams Engineering Journal- 9 (2018) 3371–3379.*
13. S. S. Rao, J. R. Sharma, S. S. Rajasekhar, D. S. P. Rao, A. Arepalli, V. Arora, Kuldeep; R. P. Singh and M. Kanaparthi, "Assessing usefulness of high-resolution satellite imagery (HRSI) for re-survey of cadastral maps". *ISPRS Ann Photogram, Remote Sens. Spatial Inf. Sci.* 2014; vol. II-8.
14. M. Salah, "Updating maps using high resolution satellite imagery as an alternative to traditional techniques". *Faculty of Engineering, Zagazig University; 2004.*
15. A. M. A. Sharawi, "Assessment of Producing Large Scale Maps From The Optical Russian Space Imagery". Ph. D. Thesis, Civil Engineering (Public Works Dep. – Surveying Section: Photogrammetry & Remote Sensing), Faculty of Engineering, Ain Shams University, Cairo, Egypt (2004).
16. H. Topan, G. Büyüksalih and K. Jacobsen, "Comparison of information contents of high resolution space images". *Proceeding of ISPRS XXth congress, Istanbul, 2004.*

35.

Authors:

Ateaya B. Azeez, Researcher, Ashraf M. Shrawai, Researcher

Paper Title:

Low Cost Handheld 3D Scanning for Egyptian Architectural Artifacts Acquisition

Abstract: Surface reconstruction of objects using photogrammetry and terrestrial laser scanning systems (TLS) has been a topic for research for many decades, especially for culture heritage data recording. Recently, many advances into these systems are now available in the market, which give the availability of collecting a huge number of geo-referenced 3-D points covering any object surface. Due to speed and efficiency of data acquisition by means of terrestrial laser scanners, researchers and designers can select the reliable technique, depending on their application, that can be complete to give good results for the complex surfaces such as heritage objects.

As Grand Egyptian Museum (GEM), located nearby the Giza Pyramids, is set to open by 2020, which considered as the largest museum from its type all over the world, with a huge area covered about a half million

195-200

m2. GEM is proposed to be a unique museum all over the world for presenting a huge number from old history Egyptian artifacts.

Consequently, there is a vital need for building a huge digital database containing complete information for this large number of artifacts. Mobile applications are presently at the primacy of documenting historical and archaeological sites. The current paper examine the methodological framework adopted for one high copy of Pharaonic artifacts, namely Offering Carrier, using hand held laser scanning and convert the results to a mobile application.

Keywords: cultural heritage, handheld scanners; laser scanning, Pharaonic artifacts.

References:

1. M. F. Alberghina, F. Alberghina, D. Allegra, F., D. Paola, L. Maniscalco, F., L., M. Milotta, S. Schiavone and F. Stanco, "Archaeometric characterization and 3d survey: new perspectives for monitoring and valorisation of morgantina silver treasure (sicily)". In Proceedings of 1st International Conference on Metrology for Archaeology (2015).
2. D. Allegra, G. Gallo, L. Inzerillo, M. Lombardo, F. L. M. Milotta, C. Santagati and F. Stanco, "Low cost handheld 3D scanning for architectural elements acquisition". STAG: Smart Tools and Apps in computer Graphics (2016), Eurographics Proceedingsc, 2016. The Eurographics Association (<https://www.researchgate.net/publication/315837110>).
3. M. Alkan and G. Karsidag, "Analysis of the accuracy of terrestrial laser scanning measurements". FIG Working Week, (Knowing to manage the territory, protect the environment, evaluate the culture heritage), Rome, Italy, 6-10 May, 2012.
4. W. Ameen, A. M. Al-Ahmari and S., H. Mian, "Evaluation of handheld scanners for automotive applications". [Princess Fatima Alnijiris's Research Chair for Advanced Manufacturing Technology (FARCAMT Chair), Advanced Manufacturing Institute, King Saud University, Riyadh 11421, Saudi Arabia]. Applied Sciences (MDPI)(www.mdpi.com/journal/applsci), 2018 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).
5. L. ARCIFA, D. CALÌ, A. PATANÈ, F. STANCO, D. TANASI and L. TRUPPIA, "Laser scanning and 3d modelling techniques in urban archaeology: the excavation of "st. agata al carcere" church in Catania". Virtual Archaeology Review 1, 2 (2010).
6. Artec3D, (2019), web site of Handheld Laser Scanner "Artec". [<https://www.artec3d.com/portable-3d-scanners/artecleo#specifications>].
7. Baltsavias, "Airborne Laser Scanning: existing Systems and Firms and Other Resources". ISPRS Journal of Photogrammetry and Remote Sensing 54 (2-3): 164-198 (1999).
8. B. BENEDETTI, M. GAIANI and F. REMONDINO, "Modelli digitali 3D in archeologia: il caso di Pompei", edizioni della normale, pisa ed. (2010).
9. E. CAPPELLETTO, P. ZATTUNIGH and G., M. CORTELAZZO, "3d scanning of cultural heritage with consumer depth cameras". Multimedia Tools and Applications 75, 7 (2016), 3631-3654. doi:10.1007/s11042-014-2065-4.
10. M. Ebrahim, "3D laser scanners: history, applications and future". Review Article. Civil Engineering Department, Faculty of Engineering, Assiut University (2014). (<https://www.researchgate.net/publication/267037683>).
11. Eternal Egypt, (2005), "<http://www.eternalegypt.org/EternalEgyptWebsiteWeb>".
12. G. GALLO, F. MILANESE, E. SANGREGORI, F. STANCO, D. and L. TRUPPIA, "Coming back home. the virtual model of the asclepius roman statue from the museum of syracuse (italy)". Virtual Archaeology Review 1, 2 (2010), 93-97.
13. Lemmens, "Terrestrial laser scanners". GIM International 21: 52-55 (2007).
14. K. KOLEV, P. TANSKANEN, P. SPECIALE and M. POLLEFEYS, "Turning mobile phones in 3d scanner". Computer Vision and Pattern Recognition (2014).
15. Q. Peng and H. Sanchez, "3D digitizing technology in product reverse design". In Proceedings of the Canadian Design Engineering Network (CDEN) Conference, Kaninaskis, Alberta, 18-20 July 2005.
16. V. Raja and K. J. Fernandes, "Reverse Engineering: An Industrial Perspective". Springer: London, UK, 2008.
17. F. REMONDINO, "Heritage recording and 3d modeling with photogrammetry and 3d scanning". Remote Sensing 3, 6 (2011), 1104-1138. doi:10.3390/rs3061104.
18. M. Scaioni, L. Barazzetti, A. Giussani, M. Previtali, F. Roncoroni, M. Alba, "Photogrammetric techniques for monitoring tunnel deformation". Earth Sci. Inform. 2014, 7, 83-95.
19. T. SCHÖPS, T. SATTLER, C. HÄNE and M. POLLEFEYS, "3d modeling on the go: Interactive 3d reconstruction of large-scale scenes on mobile devices". 3D Vision 2015.
20. F. STANCO, D. TANASI, M. BUFFA and B. BASILE, "Augmented perception of the past: The case of the telamon from the greek theater of Syracuse". In Proceedings of Multimedia for Cultural Heritage (MM4CH) (2011).
21. F. STANCO, D. TANASI, M. BUFFA and B. BASILE, "Augmented perception of the past: the case of hellenistic Syracuse". Journal of Multimedia 7, 2 (2012).
22. F. STANCO and D. TANASI, "Beyond virtual replicas: 3d modeling and maltese prehistoric architecture". Journal of Electrical and Computer Engineering (2013). doi:10.1155/2013/430905.
23. C. SANTAGATI, L. INZERILLO and F., D. PAOLA, "Image-based modeling techniques for architectural heritage 3d digitalization: limits and potentialities". International Archives of Photogrammetry, Remote Sensing and Spatial and Information Sciences XL-5, W2 (2013).

36.	Authors:	Arun Prakash, Devendra Singh, Ajay Kumar Sharma	201-206
	Paper Title:	Static Structural Simulation Analysis of Leaf Spring using Ansys Workbench	
<p>Abstract: The leaf springs are different spring styles used for automotive suspension systems. In addition to the use of energy absorption equipment, the ends of the spring can be pointed in a certain direction as it deflects as a structural function. Not primarily supporting vertical loads but isolating road-induced vibration are the principal feature of leaf spring. The present research aims at studying the safe load of the leaf spring, showing how easily an easy, safe driving speed is achieved. A standard TATA-407 light commercial vehicle leaf spring configuration is chosen. Finite element analysis for safe stresses and pay loads has been done. Conventional materials and alternative materials in spring construction used in the present work have been studied.</p> <p>Keywords: Leaf spring, Geometric modeling, Static analysis, Leaf spring, Composite material, FEM, ANSYS, Solid work.</p> <p>References:</p>			

1. Chowdhury, S.K., Islam, "Design and analysis of a composite mono leaf spring", Proceedings of the 5th International Conference on Engineering Research, Innovation and Education, ICERIE 2019, 25-27.
2. Shishay Amare Gebremeskel. Design, simulations, and prototyping of single composite Leaf Spring for Light Weight Vehicles. Global Journal of Researches in Engineering Mechanical and Mechanics Engineering Volume 12, Issue 7, Version 1.0, Year 2012.
3. Amol Bhanage and K. Padmanabhan. Design for fatigue and simulation of Glass fiber/epoxy composite automobile leaf spring. ARPN Journal of Engineering and Applied Sciences. VOL. 9, NO. 3 MARCH 2014.
4. SORATHIYA MEHUL, DHAVAL B. SHAH, VIPUL BHOJAWALA. Analysis of composite leaf spring using FEA for light vehicle mini truck. Journal for information, knowledge and research in mechanical engineering. ISSN 0975 – 668X, NOV 12 TO OCT 13, VOLUME – 02, ISSUE – 02.
5. D.N.Dubey, S.G.Mahakalkar. Stress Analysis of a Mono-parabolic Leaf Spring–A Review. IJMER, Vol.3, Issue.2, March-April. 2013 pp-769-772.
6. Vinkel Arora, Dr. ML Aggarwal, Dr. Gyan Bhushan. A Comparative Study of CAE and Experimental Results of Leaf Springs in Automotive Vehicles. IJEST, Vol. 3 No. 9 September 2011.
7. AnandKumar A. Satpute, Prof. S.S Chavan. Mono Composite Leaf Spring – Design and Testing. INDIAN JOURNAL OF APPLIED RESEARCH. Volume: 3 | Issue: 7 | July 2013.
8. Malaga. Anil Kumar, T.N.Charyulu, Ch.Ramesh. Design Optimization of Leaf Spring. IJERA, Vol. 2, Issue 6, November-December 2012.
9. Senthilkumar Mouleeswaran. Design, Manufacturing and Testing of Polymer Composite Multi-Leaf Spring for Light Passenger Automobiles - A Review. www.intechopen.com.
10. M. M. Patunkar, D. R. Dolas. Modelling and Analysis of Composite Leaf Spring under the Static Load Condition by using FEA. International Journal of Mechanical & Industrial Engineering, Volume 1 Issue 1-2011
11. R.B Charde, Dr.D.V. Bhope. Investigation of stresses in master leaf of leaf spring by FEM and its experimental verification. IJEST, Vol.4 No.02 February 2012.

37. Authors: Yusupov F., Khudayberganov T.R., Otamuratov H.Q., Shomuratova I.I., Allaberganova M.R.

Paper Title: Method of Applying the Program 3ds Max on the Topic of the Use of Global Illumination

Abstract: The purpose of the study was to examine a set of tools of 3Ds MAX that allow working with 3D graphics and animation. To do this, we investigated the lighting methods in modeling, allowing us to create models of different complexity. The article discusses global illumination, with which you can create particle simulations with simulated real world effects, create and break bonds between particles, and collide particles with each other and with other objects.

207-209

Keywords: 3DS MAX, GI, global illumination, direct illumination, modeling.

References:

1. Oksana Olegovna Gorshkova, Technology to form Students' Readiness for Research in Engineering Universities, International Journal of Engineering and Advanced Technology (IJEAT) ISSN: 2249 – 8958, Volume-9 Issue-1, October 2019, 3881-3887.
2. Rajkumar Pillay, Mohammed Laeequddin, Peer Teaching: A Pedagogic Method for Higher Education, International Journal of Innovative Technology and Exploring Engineering (IJITEE) ISSN: 2278-3075, Volume-9, Issue-1, November 2019, 2907-2913.
3. Sonu Joseph, Akkara Sherine, Blended Learning: An Effective Tool to Teach Presentation Skills, International Journal of Engineering and Advanced Technology (IJEAT) ISSN: 2249 – 8958, Volume-9 Issue-1, October 2019, 962-969.
4. Валерьян Ф. Габдулхаков, Стелла Г. Григорьева, Екатерина Г. Кривоножкина, Гюзель Ш. Закирова, исследование технологий реализации педагогического образования в условиях университета, Образование и саморазвитие. Том 14, № 3, 2019, 107-116
5. Smirnova Z.V., Vaganova O. I., Konovalova E. Y., Kulagina J.A., Zhitnikova N.E., Frolova N.V., Lukina E. V. Modern Communication Technologies In Professional Education, International Journal of Innovative Technology and Exploring Engineering (IJITEE) ISSN: 2278-3075, Volume-8 Issue-11, September 2019, 3751-3759.
6. Гасангусейн И. Ибрагимов, Методология исследовательски-ориентированного обучения в системе педагогического образования, Образование и саморазвитие. Том 14, № 3, 2019, 117-126
7. Irina V. Terentyeva, Natalya B. Pugacheva, Anastasia O. Luchinina, Timur A. Khalmetov, Niyaz M. Safin, Alsu N. Shaydullina, Selection and Structuring of Training Multimedia Educational Materials for University Students: Practical Recommendations, International Journal of Instruction, July 2019 • Vol.12, No.3 e-ISSN: 1308-1470 • www.e-iji.net p-ISSN: 1694-609X, pp. 759-780
8. Elena Petrovna Olesina, Tatyana Valentinovna Gorodilina, The Technology of Media Culture usage in the Educational Environment: Development of Creative Self-Actualization, International Journal of Innovative Technology and Exploring Engineering (IJITEE) ISSN: 2278-3075, Volume-8 Issue-10, August 2019, pp. 2819-2826
9. N.I. Tukenova, R.G. Ramazanov, M.L. Gruzdeva, T.Zh. Baydildinov, Sh.A. Naubetova, Methodology for Developing E-learning Courses in IT Education, International Journal of Innovative Technology and Exploring Engineering (IJITEE) ISSN: 2278-3075, Volume-8 Issue-10, August 2019, pp. 3614-3616
10. Smirnova Z.V., Vaganova O. I., Konovalova E. Y., Kulagina J.A., Zhitnikova N.E., Frolova N. V., Lukina E. V., Modern Communication Technologies In Professional Education, International Journal of Innovative Technology and Exploring Engineering (IJITEE) ISSN: 2278-3075, Volume-8 Issue-11, September 2019, pp. 3751-3756
11. Svetlana Grakhova, Irek Fayzrakhmanov, Aray Zhundibayeva, Marina Yakutina, Rifat Sharipov, Nikolay Stepykin, Information, Pedagogical and Facilitation Technologies in Teaching a Special Philology Class at Non-Specialized Faculties of Higher Education Institutions, International Journal of Innovative Technology and Exploring Engineering (IJITEE) ISSN: 2278-3075, Volume-8 Issue-12, October 2019, pp. 1613-1620
12. N.V. Lyapunova, University Teaching Technology, International Journal of Innovative Technology and Exploring Engineering (IJITEE) ISSN: 2278-3075, Volume-8 Issue-12, October 2019, pp. 426-429
13. Ahlam A. Alghamdi, James M. Ernest, Teachers' beliefs about developmentally appropriate practices in Saudi Arabia, International Journal of Child Care and Education Policy, 2019, 13:8 <https://doi.org/10.1186/s40723-019-0064-7>
14. Md Golam Jamil, Sakirulai Olufemi Isiaq, Teaching technology with technology: approaches to bridging learning and teaching gaps in simulation-based programming education, International Journal of Educational Technology in Higher Education, 2019, 16:25 <https://doi.org/10.1186/s41239-019-0159-9>
15. Nikola Tomasevic , Nikola Gvozdenovic, Sanja Vranes, An overview and comparison of supervised data mining techniques for student exam performance prediction. Computers & Education, 143, 2000, 103676
16. Rosa María Torres Valdés ,Alba Santa Soriano , Carolina Lorenzo Álvarez, Resignification of educational e-innovation to

	<p>enhance opportunities for graduate employability in the context of new university degrees, JOURNAL OF NEW APPROACHES IN EDUCATIONAL RESEARCH Vol. 7. No. 1. January 2018. pp. 70–78 ISSN: 2254-7339 DOI: 10.7821/naer.2018.1.263, pp. 70-78</p> <p>17. Sonia Fonua, Embedding indigenous science knowledge and values in higher education: Critical reflexive practice informed by successful Tongan science learners, Waikato Journal of Education, Volume 23, Issue 1: 2018, pp. 95-106</p> <p>18. Emma Quiles-Fernández , Julio Hizmeri Fernández & Roxana Hormazábal Fajardo, Learning about Educational Research: a Community of Knowledge towards the Writing Developed during our Doctoral Work, Qualitative Research in Education Vol.7 No.3 October 2018 pp. 241-264</p> <p>19. Martínez, M.J., López, R. & Pérez, A., E-innovación en educación superior. claves para la institucionalización en las universidades e-innovación in higher education. some keys for its institutionalization in universities, Pixel-Bit. Revista de Medios y Educación. N° 52 Enero 2018. ISSN: 1133-8482. e-ISSN: 2171-7966. doi: http://dx.doi.org/10.12795/pixelbit.2018.i52.13</p> <p>20. Lejla Abazi-Bexheti, Arbana Kadriu, Marika Apostolova-Trpkovska, Edmond Jajaga, Hyrije Abazi-Alili, LMS Solution: Evidence of Google Classroom Usage in Higher Education, Business Systems Research, Vol. 9 No. 1, 2018, pp. 31-43</p> <p>21. Rosa Arruabarrena , Ana Sánchez, José M. Blanco, José A. Vadillo and Imanol Usandizaga, Integration of good practices of active methodologies with the reuse of student-generated content, International Journal of Educational Technology in Higher Education, 2019, 16:10 https://doi.org/10.1186/s41239-019-0140-7</p> <p>22. Gerardo Tibaná-Herrera, María Teresa Fernández-Bajón and Félix De Moya-Anegón, Categorization of E-learning as an emerging discipline in the world publication system: a bibliometric study in SCOPUS, International Journal of Educational Technology in Higher Education, 2018, 15:21 https://doi.org/10.1186/s41239-018-0103-4</p> <p>23. Md Golam Jamil, Sakirulai Olufemi Isiaq, Teaching technology with technology: approaches to bridging learning and teaching gaps in simulation-based programming education, International Journal of Educational Technology in Higher Education (2019) 16:25 https://doi.org/10.1186/s41239-019-0159-9</p> <p>24. Aida R. Nurutdinova – Elena V. Dmitrieva – Elena A. Nelyubina – Liliya R. Nurova – Kira R. Wagner, The interactive education in teaching languages: microblogging as the way to improve postgraduate students' communicative interaction in English, XLinguae, Volume 11, Issue 2, April 2018, ISSN 1337-8384, eISSN 2453-711X, pp. 120-135</p>							
38.	<table border="1"> <tr> <td>Authors:</td> <td>Selina Ruby.G, Dinesh.S, Bharath Raj.P, Kishorenandha.S</td> </tr> <tr> <td>Paper Title:</td> <td>Assessment on Influence of Corncob Ash as a Partial Replacement of Cement in Concrete</td> </tr> <tr> <td colspan="2"> <p>Abstract: In an attempt to renovate waste product into constructive material for the building purpose, this research considered the use of corn cob ash (CCA) as a partial replacement of cement. Hence, in this research, we have proposed an eco-friendly solution by investigating the utilization of corncob ash with 0, 5, 10 and 15% replacement for cement in M30 grade of concrete Mechanical Properties such as compressive strength, Split tensile strength and Flexural strength at 7,14,28 days are examined in laboratory. The results reveal that Corn Cob Ash can be used as a partial replacement for cement which in turn reduces the emission of greenhouse gases.</p> <p>Keywords: Agricultural waste, Corncob Ash, Mechanical Properties, Replacement of cement.</p> <p>References:</p> <ol style="list-style-type: none"> 1. D.A.Adesanya, A.A.Raheem, Development of Corn Cob ash blended cement, Construction and Building Materials, 2007, 2(3), 347-352. 2. Ndububa, Emmanuel, Nurudeen Yakubu, Effects of Guinea Corn Husk Ash as partial replacement cement in Concrete, IOSR Journal of Mechanical and Civil Engineering, 2015, 12(2), 40-45. 3. Owolabi T.A., Oladipo I.O., Papoola O.O., Effects of Corn Husk Ash as partial substitute for cement in Concrete, New York Science Journal, 2015, 8(11), 1-4. 4. Oluborode K.D., Olofintuyi I.O., Strength evaluation of corn cob ash in a blended portland cement, International Journal of Engineering and Innovative Technology (IJEIT), 2015, 4(12), 14-17. 5. P. Suwanmaneechot, T. Nochaiya, P. Julphunthong , Improvement of characterization and use of waste corn cob ash in cement based material, Global Conference on Material Science and Engineering, 2015, 10(3), 1-11. 6. Kayote Oluborode, llesanmi Olofintuyi , Self compacting concrete: Strength evaluation of CCA in blended portland cement, American Scientific Research Journal for Engineering Technology and Science, 2015, 13(1), 123-131. 7. John Kamau, Ash Ahmed, Paul Hirst, Joseph Kangwa, Viability of using CCA as pozzolonic in concrete, International Journal of Science Environmental Technology, 2016, 5(6), 4532-4544. 8. Ahangba Augustine, Tiza Michael, Partial Replacement of cement with corn cob ash, China Civil Engineering Construction Corporation – Nigeria Limited, 2016, 2(7), 159-169. 9. Gradinaru C.M., Barduta M., Babor D., Serbanoice A.A., Corn cob ash as sustainable pozzolanic material for an ecological concrete, 2018, 3(1),61-66. 10. Emeka Segun Nnochiri, Oluwaseun Adedapo Adetayo , Geotechnical properties of lateritic soil stabilized with corn cob ash, ACTA TECHNICA CORVINIENSIS – Bulletin of Engineering, 2019, 12(3), 73-76. 11. IS 10262:2019. Concrete Mix Proportioning - Guidelines (Second Revision) 12. IS 516:1959 Methods of Tests for Strength of Concrete (Eighteenth revision). Reaffirmed- May 2013 13. IS 5816 (1999): Splitting Tensile Strength of concrete- Method of Test </td> </tr> </table>	Authors:	Selina Ruby.G, Dinesh.S, Bharath Raj.P, Kishorenandha.S	Paper Title:	Assessment on Influence of Corncob Ash as a Partial Replacement of Cement in Concrete	<p>Abstract: In an attempt to renovate waste product into constructive material for the building purpose, this research considered the use of corn cob ash (CCA) as a partial replacement of cement. Hence, in this research, we have proposed an eco-friendly solution by investigating the utilization of corncob ash with 0, 5, 10 and 15% replacement for cement in M30 grade of concrete Mechanical Properties such as compressive strength, Split tensile strength and Flexural strength at 7,14,28 days are examined in laboratory. The results reveal that Corn Cob Ash can be used as a partial replacement for cement which in turn reduces the emission of greenhouse gases.</p> <p>Keywords: Agricultural waste, Corncob Ash, Mechanical Properties, Replacement of cement.</p> <p>References:</p> <ol style="list-style-type: none"> 1. D.A.Adesanya, A.A.Raheem, Development of Corn Cob ash blended cement, Construction and Building Materials, 2007, 2(3), 347-352. 2. Ndububa, Emmanuel, Nurudeen Yakubu, Effects of Guinea Corn Husk Ash as partial replacement cement in Concrete, IOSR Journal of Mechanical and Civil Engineering, 2015, 12(2), 40-45. 3. Owolabi T.A., Oladipo I.O., Papoola O.O., Effects of Corn Husk Ash as partial substitute for cement in Concrete, New York Science Journal, 2015, 8(11), 1-4. 4. Oluborode K.D., Olofintuyi I.O., Strength evaluation of corn cob ash in a blended portland cement, International Journal of Engineering and Innovative Technology (IJEIT), 2015, 4(12), 14-17. 5. P. Suwanmaneechot, T. Nochaiya, P. Julphunthong , Improvement of characterization and use of waste corn cob ash in cement based material, Global Conference on Material Science and Engineering, 2015, 10(3), 1-11. 6. Kayote Oluborode, llesanmi Olofintuyi , Self compacting concrete: Strength evaluation of CCA in blended portland cement, American Scientific Research Journal for Engineering Technology and Science, 2015, 13(1), 123-131. 7. John Kamau, Ash Ahmed, Paul Hirst, Joseph Kangwa, Viability of using CCA as pozzolonic in concrete, International Journal of Science Environmental Technology, 2016, 5(6), 4532-4544. 8. Ahangba Augustine, Tiza Michael, Partial Replacement of cement with corn cob ash, China Civil Engineering Construction Corporation – Nigeria Limited, 2016, 2(7), 159-169. 9. Gradinaru C.M., Barduta M., Babor D., Serbanoice A.A., Corn cob ash as sustainable pozzolanic material for an ecological concrete, 2018, 3(1),61-66. 10. Emeka Segun Nnochiri, Oluwaseun Adedapo Adetayo , Geotechnical properties of lateritic soil stabilized with corn cob ash, ACTA TECHNICA CORVINIENSIS – Bulletin of Engineering, 2019, 12(3), 73-76. 11. IS 10262:2019. Concrete Mix Proportioning - Guidelines (Second Revision) 12. IS 516:1959 Methods of Tests for Strength of Concrete (Eighteenth revision). Reaffirmed- May 2013 13. IS 5816 (1999): Splitting Tensile Strength of concrete- Method of Test 		210-212
Authors:	Selina Ruby.G, Dinesh.S, Bharath Raj.P, Kishorenandha.S							
Paper Title:	Assessment on Influence of Corncob Ash as a Partial Replacement of Cement in Concrete							
<p>Abstract: In an attempt to renovate waste product into constructive material for the building purpose, this research considered the use of corn cob ash (CCA) as a partial replacement of cement. Hence, in this research, we have proposed an eco-friendly solution by investigating the utilization of corncob ash with 0, 5, 10 and 15% replacement for cement in M30 grade of concrete Mechanical Properties such as compressive strength, Split tensile strength and Flexural strength at 7,14,28 days are examined in laboratory. The results reveal that Corn Cob Ash can be used as a partial replacement for cement which in turn reduces the emission of greenhouse gases.</p> <p>Keywords: Agricultural waste, Corncob Ash, Mechanical Properties, Replacement of cement.</p> <p>References:</p> <ol style="list-style-type: none"> 1. D.A.Adesanya, A.A.Raheem, Development of Corn Cob ash blended cement, Construction and Building Materials, 2007, 2(3), 347-352. 2. Ndububa, Emmanuel, Nurudeen Yakubu, Effects of Guinea Corn Husk Ash as partial replacement cement in Concrete, IOSR Journal of Mechanical and Civil Engineering, 2015, 12(2), 40-45. 3. Owolabi T.A., Oladipo I.O., Papoola O.O., Effects of Corn Husk Ash as partial substitute for cement in Concrete, New York Science Journal, 2015, 8(11), 1-4. 4. Oluborode K.D., Olofintuyi I.O., Strength evaluation of corn cob ash in a blended portland cement, International Journal of Engineering and Innovative Technology (IJEIT), 2015, 4(12), 14-17. 5. P. Suwanmaneechot, T. Nochaiya, P. Julphunthong , Improvement of characterization and use of waste corn cob ash in cement based material, Global Conference on Material Science and Engineering, 2015, 10(3), 1-11. 6. Kayote Oluborode, llesanmi Olofintuyi , Self compacting concrete: Strength evaluation of CCA in blended portland cement, American Scientific Research Journal for Engineering Technology and Science, 2015, 13(1), 123-131. 7. John Kamau, Ash Ahmed, Paul Hirst, Joseph Kangwa, Viability of using CCA as pozzolonic in concrete, International Journal of Science Environmental Technology, 2016, 5(6), 4532-4544. 8. Ahangba Augustine, Tiza Michael, Partial Replacement of cement with corn cob ash, China Civil Engineering Construction Corporation – Nigeria Limited, 2016, 2(7), 159-169. 9. Gradinaru C.M., Barduta M., Babor D., Serbanoice A.A., Corn cob ash as sustainable pozzolanic material for an ecological concrete, 2018, 3(1),61-66. 10. Emeka Segun Nnochiri, Oluwaseun Adedapo Adetayo , Geotechnical properties of lateritic soil stabilized with corn cob ash, ACTA TECHNICA CORVINIENSIS – Bulletin of Engineering, 2019, 12(3), 73-76. 11. IS 10262:2019. Concrete Mix Proportioning - Guidelines (Second Revision) 12. IS 516:1959 Methods of Tests for Strength of Concrete (Eighteenth revision). Reaffirmed- May 2013 13. IS 5816 (1999): Splitting Tensile Strength of concrete- Method of Test 								
39.	<table border="1"> <tr> <td>Authors:</td> <td>Archana K, K.L. Sudha</td> </tr> <tr> <td>Paper Title:</td> <td>Different Spectrum Sensing Technique in Cognitive Radio Environment</td> </tr> <tr> <td colspan="2"> <p>Abstract: A cognitive radio (CR) is one of the wireless sensor networks and the use of CR is increasing day by day. It is the process of learning via perception, planning, reasoning and continuously updating and upgrading the academic history of information. The cognitive radio has spectrum sensing (SS) problem in opportunistic spectrum access process. The SS, where the second user has to fill the unused spectrum of a licensed user when primary user (PU) not in use. It may arise interference problem to the user by the transmission of information in WSNs. Thus; this paper providing the comprehensive survey with the brief explanation of cognitive radio along with SS methods to reduce the issues appear in CR. The open research problems are discussed by considering previously existed research papers.</p> <p>Keywords: Cognitive radio (CR), Primary user (PU), Spectrum sensing (SS), Wireless Sensor Network (WSN)</p> </td> </tr> </table>	Authors:	Archana K, K.L. Sudha	Paper Title:	Different Spectrum Sensing Technique in Cognitive Radio Environment	<p>Abstract: A cognitive radio (CR) is one of the wireless sensor networks and the use of CR is increasing day by day. It is the process of learning via perception, planning, reasoning and continuously updating and upgrading the academic history of information. The cognitive radio has spectrum sensing (SS) problem in opportunistic spectrum access process. The SS, where the second user has to fill the unused spectrum of a licensed user when primary user (PU) not in use. It may arise interference problem to the user by the transmission of information in WSNs. Thus; this paper providing the comprehensive survey with the brief explanation of cognitive radio along with SS methods to reduce the issues appear in CR. The open research problems are discussed by considering previously existed research papers.</p> <p>Keywords: Cognitive radio (CR), Primary user (PU), Spectrum sensing (SS), Wireless Sensor Network (WSN)</p>		213-220
Authors:	Archana K, K.L. Sudha							
Paper Title:	Different Spectrum Sensing Technique in Cognitive Radio Environment							
<p>Abstract: A cognitive radio (CR) is one of the wireless sensor networks and the use of CR is increasing day by day. It is the process of learning via perception, planning, reasoning and continuously updating and upgrading the academic history of information. The cognitive radio has spectrum sensing (SS) problem in opportunistic spectrum access process. The SS, where the second user has to fill the unused spectrum of a licensed user when primary user (PU) not in use. It may arise interference problem to the user by the transmission of information in WSNs. Thus; this paper providing the comprehensive survey with the brief explanation of cognitive radio along with SS methods to reduce the issues appear in CR. The open research problems are discussed by considering previously existed research papers.</p> <p>Keywords: Cognitive radio (CR), Primary user (PU), Spectrum sensing (SS), Wireless Sensor Network (WSN)</p>								

References:

1. Amjad, Muhammad, Mubashir Husain Rehmani, and Shiwen Mao. "Wireless Multimedia CR Networks: A Comprehensive Survey." *spectrum* 1 (2018): 2.
2. Hu, Feng, Bing Chen, and Kun Zhu. "Full Spectrum Sharing in Cognitive Radio Networks Toward 5G: A Survey." *IEEE Access* 6 (2018): 15754-15776.
3. Awe, Olusegun Peter, Anastasios Deligiannis, and Sangarapillai Lambodharan. "Spatio-temporal spectrum sensing in cognitive radio networks using Beamformer-Aided SVM algorithms." *IEEE Access* (2018).
4. Muchandi, Niranjani, and Rajashri Khanai. "Cognitive radio spectrum sensing: A survey." *Electrical, Electronics, and Optimization Techniques (ICEEOT), International Conference on. IEEE*, 2016.
5. Ramani, Vishakha, and Sanjay K. Sharma. "RS: A survey on spectrum sensing, security and spectrum handoff." *China Communications* 14.11 (2017): 185-208.
6. Elderini, Tarek, Naima Kaabouch, and Hector Reyes. "Channel quality estimation metrics in cognitive radio networks: a survey." *IET Communications* 11.8 (2017): 1173-1179.
7. Yucek, Tevfik, and Huseyin Arslan. "A survey of spectrum sensing algorithms for cognitive radio applications." *IEEE communications surveys & tutorials* 11.1: 116-130.
8. Grissa, Mohamed, Bechir Hamdaoui, and Attila A. Yavuz. "Location privacy in cognitive radio networks: A survey." *IEEE Communications Surveys & Tutorials* 19.3 (2017): 1726-1760.
9. Gahane, Lokesh, et al. "An Improved Energy Detector for Mobile Cognitive Users Over Generalized Fading Channels." *IEEE Transactions on Communications* 66.2 (2018): 534-545.
10. Sharma, Shree Krishna, et al. "Application of compressive sensing in cognitive radio communications: A survey." *IEEE Communication Surveys & Tutorials* (2016). ---58
11. Rajkumari, Roshni, and Ningrinla Marchang. "Secure Non-Consensus Based Spectrum Sensing in Non-Centralized Cognitive Radio Networks." *IEEE Sensors Journal* 18.9 (2018): 3883-3890.
12. Yucek, Tevfik, and Huseyin Arslan. "A survey of spectrum sensing algorithms for cognitive radio applications." *IEEE communications surveys & tutorials* 11.1: 116-130.
13. A. O. Salam, R. E. Sheriff, S. R. Al-Araji, K. Mezher and Q. Nasir, "Adaptive interacting multiple model-Kalman filter for multitaper spectrum sensing in cognitive radio," in *Electronics Letters*, vol. 54, no. 5, pp. 321-322, 3 8 2018.
14. Elnahas, Osama, et al. "Game Theoretic Approaches for Cooperative Spectrum Sensing in Energy-Harvesting Cognitive Radio Networks." *IEEE Access* 6 (2018): 11086-11100.
15. Xiong, Tianyi, et al. "Multiband Spectrum Sensing in Cognitive Radio Networks With Secondary User Hardware Limitation: Random and Adaptive Spectrum Sensing Strategies." *IEEE Transactions on Wireless Communications* 17.5 (2018): 3018-3029.
16. Saifan, Ramzi, Iyad Jafar, and Ghazi Al Sukkar. "Optimized Cooperative Spectrum Sensing Algorithms in Cognitive Radio Networks." (2017): 835-849.
17. Chu, Thi My Chinh, and Hans-Jürgen Zepernick. "Optimal Power Allocation for Hybrid Cognitive Cooperative Radio Networks with Imperfect Spectrum Sensing." *IEEE Access* (2018).
18. Kim, Nam-Seog, and Jan M. Rabaey. "A Dual-Resolution Wavelet-Based Energy Detection Spectrum Sensing for UWB-Based Cognitive Radios." *IEEE Transactions on Circuits and Systems—I: Regular Papers* 65.7 (2018): 2279.
19. Ali, Abdelmohsen, and Walaa Hamouda. "Power-Efficient Wideband Spectrum Sensing for Cognitive Radio Systems." *IEEE Transactions on Vehicular Technology* 67.4 (2018): 3269-3283.
20. Nguyen, Van-Dinh, and Oh-Soon Shin. "Cooperative prediction-and-sensing-based spectrum sharing in cognitive radio networks." *IEEE Transactions on Cognitive Communications and Networking* 4.1 (2018): 108-120.
21. Ali, Mohsin, and Haewoon Nam. "Effect of spectrum sensing and transmission duration on spectrum hole utilisation in cognitive radio networks." *IET Communications* 11.16 (2017): 2539-2543.
22. Na, Woongsoo, et al. "Centralized Cooperative Directional Spectrum Sensing for Cognitive Radio Networks." *IEEE Transactions on Mobile Computing* (2017).
23. Ostovar, Arash, and Zheng Chang. "Optimisation of cooperative spectrum sensing via optimal power allocation in cognitive radio networks." *IET Communications* 11.13 (2017): 2116-2124.
24. Patel, Adarsh, et al. "Robust Cooperative Spectrum Sensing for MIMO Cognitive Radio Networks Under CSI Uncertainty." *IEEE Transactions on Signal Processing* 66.1 (2018): 18-33.
25. Ye, Yinghui, et al. "Unilateral right-tail Anderson-Darling test based spectrum sensing for cognitive radio." *Electronics Letters* 53.18 (2017): 1256-1258.
26. Zhao, Jie, et al. "Scheduled Sequential Compressed Spectrum Sensing for Wideband Cognitive Radios." *IEEE Transactions on Mobile Computing* 17.4 (2018): 913-926.
27. Yang, Xi, et al. "Eigenvalue ratio based blind spectrum sensing algorithm for multiband cognitive radios with relatively small samples." *Electronics Letters* 53.16 (2017): 1150-1152.
28. Xiong, Tianyi, et al. "Random, Persistent, and Adaptive Spectrum Sensing Strategies for Multiband Spectrum Sensing in Cognitive Radio Networks With Secondary User Hardware Limitation." *IEEE Access* 5 (2017): 14854-14866.
29. Hajihoseini, Amirhosein, and Seyed Ali Ghorashi. "Distributed Spectrum Sensing for Cognitive Radio Sensor Networks Using Diffusion Adaptation." *IEEE Sensors Letters* 1.5 (2017): 1-4.
30. Huang, Sai, et al. "Space-time correlation based fast regional spectrum sensing in cognitive radio." *China Communications* 14.5 (2017): 78-90.
31. Rashid, Rozeha A., et al. "Efficient in-band spectrum sensing using swarm intelligence for cognitive radio network." *Canadian Journal of Electrical and Computer Engineering* 38.2 (2015): 106-115.
32. Chen, Huifang, et al. "Cooperative spectrum sensing with M-ary quantized data in cognitive radio networks under SSDF attacks." *IEEE Transactions on Wireless Communications* 16.8 (2017): 5244-5257.
33. Hosseini, Haleh, et al. "Compressed wavelet packet-based spectrum sensing with adaptive thresholding for cognitive radio." *Canadian Journal of Electrical and Computer Engineering* 38.1 (2015): 31-36.
34. Taherpour, Abbas, Hesameddin Mokhtarzadeh, and Tamer Khattab. "Optimized Error Probability for Weighted Collaborative Spectrum Sensing in Time-and Energy-Limited Cognitive Radio Networks." *IEEE Transactions on Vehicular Technology* 66.10 (2017): 9035-9049.
35. MacDonald, Sara, Dimitrie C. Popescu, and Otilia Popescu. "Analyzing the Performance of Spectrum Sensing in Cognitive Radio Systems With Dynamic PU Activity." *IEEE Communications Letters* 21.9 (2017): 2037-2040.
36. Li, Zan, et al. "Optimal Spectrum Sensing Interval in Energy-Harvesting Cognitive Radio Networks." *IEEE Transactions on Cognitive Communications and Networking* 3.2 (2017): 190-200.
37. Pei, Qingqi, Hongning Li, and Xianjun Liu. "Neighbor Detection-Based Spectrum Sensing Algorithm in Distributed Cognitive Radio Networks." *Chinese Journal of Electronics* 26.2 (2017): 399-406.
38. Awe, Olusegun Peter, Anastasios Deligiannis, and Sangarapillai Lambodharan. "Spatio-temporal spectrum sensing in cognitive radio networks using Beamformer-Aided SVM algorithms." *IEEE Access* 6 (2018): 25377-25388.
39. Amjad, Muhammad, et al. "Full-duplex communication in cognitive radio networks: A survey." *IEEE Communications Surveys & Tutorials* (2017).
40. Ali, Abdelmohsen, and Walaa Hamouda. "Advances on spectrum sensing for cognitive radio networks: Theory and applications."

	<p>IEEE Communications Surveys & Tutorials 19.2 (2017): 1277-1304.</p> <p>41. Hassan, Md Rakib, et al. "Exclusive Use Spectrum Access Trading Models in Cognitive Radio Networks: A Survey." IEEE Communications Surveys & Tutorials 19.4 (2017): 2192-2231.</p> <p>42. El Tanab, Manal, and Walaa Hamouda. "Resource allocation for underlay cognitive radio networks: A survey." IEEE Communications Surveys & Tutorials 19.2 (2017): 1249-1276.</p> <p>43. Kalluri, Tarun, et al. "Cooperative spectrum sharing-based relaying protocols with wireless energy harvesting cognitive user." IET Communications 12.7 (2018): 838-847</p> <p>44. Shafiee, Morteza, and Vahid Tabataba Vakili. "Comparative Evaluation Approach for Spectrum Sensing in Cognitive Wireless Sensor Networks (C-WSNs)." Canadian Journal of Electrical and Computer Engineering 41.2 (2018): 77-86.</p> <p>45. Alfa, Attahiru S., et al. "Mixed-integer programming based techniques for resource allocation in underlay cognitive radio networks: A survey." Journal of Communications and Networks 18.5 (2016): 744-761.</p> <p>46. Li, Xingjian, et al. "Intelligent Power Control for Spectrum Sharing in Cognitive Radios: A Deep Reinforcement Learning Approach." arXiv preprint arXiv: 1712.07365 (2017).</p> <p>47. Gu, Bin, et al. "Use of a Rapid Method for Achieving Optimal Sensing Duration and Analysis of Data Rate Loss of Cognitive Radio Due to CLT." IEEE Access 6 (2018): 24264-24278.</p> <p>48. Ali, Amjad, et al. "Channel Clustering and QoS Level Identification Scheme for Multi-Channel Cognitive Radio Networks." IEEE Communications Magazine 56.4 (2018): 164-171.</p> <p>49. Shi, Yan, et al. "Constructing a Robust Topology for Reliable Communications in Multi-Channel Cognitive Radio Ad Hoc Networks." IEEE Communications Magazine 56.4 (2018): 172-179.</p> <p>50. Jacob, Ponnuru, et al. "Cognitive radio for aeronautical communications: A survey." IEEE Access 4 (2016): 3417-3443.</p> <p>51. Yang, Zhutian, et al. "Green-RPL: An Energy-Efficient Protocol for Cognitive Radio Enabled AMI Network in Smart Grid." IEEE Access 6 (2018): 18335-18344.</p> <p>52. Gottapu, Srinivasa Kiran, et al. "Maximizing Cognitive Radio Networks Throughput Using Limited Historical Behavior of Primary Users." IEEE ACCESS 6 (2018): 12252-12259.</p> <p>53. Wang, Huaxia, Yu-Dong Yao, and Shengliang Peng. "Prioritized Secondary User Access Control in Cognitive Radio Networks." IEEE Access (2018).</p> <p>54. A. O. Salam, R. E. Sheriff, S. R. Al-Araji, K. Mezher and Q. Nasir, "Adaptive interacting multiple model-Kalman filter for multitaper spectrum sensing in cognitive radio," in Electronics Letters, vol. 54, no. 5, pp. 321-322, 3 8 2018.</p>							
40.	<table border="1"> <tr> <td>Authors:</td> <td>Ravendra Kumar, Rahul Sajwan, Praveen Kumar Jha, Sachin Sharma</td> </tr> <tr> <td>Paper Title:</td> <td>Challenges in Face Detection and Recognition Techniques</td> </tr> <tr> <td colspan="2"> <p>Abstract: Face Recognition System is popular topic in the biometric world .This system provide Features to detect the person's face and identify on basis of existing records in database .The aim of this study is to described how to show various facial features of an image. Face Recognition system, based on Biometric AI, uniquely finds out a person by analyzing the person's facial textures and shape. In this paper, our aim is to study various face detect and recognition techniques such as Harr Like Feature Algorithm resulting to retort criminality and public crisis. Also, some facial recognition approaches PCA and LDA have been discussed in the research paper for abstracting the image information.</p> <p>Keyword- Face recognition system, biometric, database, facial features.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Faizan Ahmad , AaimaNajam and Zeeshan Ahmed," Image-based Face Detection and Recognition" ¹ Department of Computer Science & Engineering, Beijing University of Aeronautics & Astronautics,² Department of Computer Science, COMSATS Institute of Information Technology,³Department of Information Technology, Education University 2. Sujata G. Bhele and V. H. Mankar"A Review Paper on Face Recognition Techniques", International Journal of Advanced Research in Computer Engineering &Technology (IJARCET) "Volume 1, Issue 8, October 2012 3. Michel Owayjan, AmerDergham, Gerges Haber, Nidal Fakh, Ahmad Hamoush, ElieAbdo ,"Face Recognition Security System." American University of Science and Technology (AUST) Departments of Computer and Communications Engineering and Computer Science" 4. LBPH algorithm for Face Recognition"[Online], Available at: https://iq.opengenus.org/lbph-algorithm-for-face-recognition/ 5. Face recognition: Understanding LBPH algorithm" [Online],Available at:https://towardsdatascience.com/face-recognition-how-lbph-works-90ec258c3d6b 6. Face detection for beginners" [online] Available at:https://towardsdatascience.com/face-detection-for-beginners-e58e8f21aad9 7. "Eigenfaces vs. Fisherfaces: Recognition Using Class Specific Linear Projection" Research by Peter N. Belhumeur, Joao P. Hespanha, David J. Kriegman 8. [8] "A comparison of facial recognition's algorithms" Research By Nicolas Delbiaggio. 9. General Pose Face Recognition Using Frontal Face Model Research By-Jean-Yves Guillemaut, Josef Kittler, Mohammad T. Sadeghi, and William J. Christmas. 10. Face Recognition and Drunk Classification Using Infrared Face Images" Research by Gabriel Hermosilla, José Luis Verdugo, Gonzalo Farias, Esteban Vera, Francisco Pizarro and Margarita Machuca 11. Deep Face Recognition" Research By- Omkar M. Parkhi, Andrea Vedaldi, Andrew Zisserman. 12. Side-View Face Recognition" Research by- Pinar Santemiz, Luuk J. Spreuwers, Raymond N.J. Veldhuis. 13. Age Sensitivity of Face Recognition Algorithms" Research by- Mohd Yassin, S Hoque, F. Deravi. 14. "Face Recognition using Eigenfaces Technique"[Online] ,Available at:https://medium.com/@devalshah1619/face-recognition-using-eigenfaces-technique-f221d505d4f7 15. A comparison of facial recognition's algorithms" By Nicolas Delbiaggio. 16. Fisher Faces Accuracy Result" [Online],Available at: https://answers.opencv.org/question/25901/accuracy-of-fisherfaces/ 17. M A Imran , M S U Miah, H Rahman "Face Recognition using Eigenfaces" ¹Computer Vision Lab Department of Computer Science American International University-Bangladesh, ² Vision Lab Department of Computer Science American International University-Bangladesh, ³ Vision Lab Department of Computer Science American International University-Bangladesh </td> </tr> </table>	Authors:	Ravendra Kumar, Rahul Sajwan, Praveen Kumar Jha, Sachin Sharma	Paper Title:	Challenges in Face Detection and Recognition Techniques	<p>Abstract: Face Recognition System is popular topic in the biometric world .This system provide Features to detect the person's face and identify on basis of existing records in database .The aim of this study is to described how to show various facial features of an image. Face Recognition system, based on Biometric AI, uniquely finds out a person by analyzing the person's facial textures and shape. In this paper, our aim is to study various face detect and recognition techniques such as Harr Like Feature Algorithm resulting to retort criminality and public crisis. Also, some facial recognition approaches PCA and LDA have been discussed in the research paper for abstracting the image information.</p> <p>Keyword- Face recognition system, biometric, database, facial features.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Faizan Ahmad , AaimaNajam and Zeeshan Ahmed," Image-based Face Detection and Recognition" ¹ Department of Computer Science & Engineering, Beijing University of Aeronautics & Astronautics,² Department of Computer Science, COMSATS Institute of Information Technology,³Department of Information Technology, Education University 2. Sujata G. Bhele and V. H. Mankar"A Review Paper on Face Recognition Techniques", International Journal of Advanced Research in Computer Engineering &Technology (IJARCET) "Volume 1, Issue 8, October 2012 3. Michel Owayjan, AmerDergham, Gerges Haber, Nidal Fakh, Ahmad Hamoush, ElieAbdo ,"Face Recognition Security System." American University of Science and Technology (AUST) Departments of Computer and Communications Engineering and Computer Science" 4. LBPH algorithm for Face Recognition"[Online], Available at: https://iq.opengenus.org/lbph-algorithm-for-face-recognition/ 5. Face recognition: Understanding LBPH algorithm" [Online],Available at:https://towardsdatascience.com/face-recognition-how-lbph-works-90ec258c3d6b 6. Face detection for beginners" [online] Available at:https://towardsdatascience.com/face-detection-for-beginners-e58e8f21aad9 7. "Eigenfaces vs. Fisherfaces: Recognition Using Class Specific Linear Projection" Research by Peter N. Belhumeur, Joao P. Hespanha, David J. Kriegman 8. [8] "A comparison of facial recognition's algorithms" Research By Nicolas Delbiaggio. 9. General Pose Face Recognition Using Frontal Face Model Research By-Jean-Yves Guillemaut, Josef Kittler, Mohammad T. Sadeghi, and William J. Christmas. 10. Face Recognition and Drunk Classification Using Infrared Face Images" Research by Gabriel Hermosilla, José Luis Verdugo, Gonzalo Farias, Esteban Vera, Francisco Pizarro and Margarita Machuca 11. Deep Face Recognition" Research By- Omkar M. Parkhi, Andrea Vedaldi, Andrew Zisserman. 12. Side-View Face Recognition" Research by- Pinar Santemiz, Luuk J. Spreuwers, Raymond N.J. Veldhuis. 13. Age Sensitivity of Face Recognition Algorithms" Research by- Mohd Yassin, S Hoque, F. Deravi. 14. "Face Recognition using Eigenfaces Technique"[Online] ,Available at:https://medium.com/@devalshah1619/face-recognition-using-eigenfaces-technique-f221d505d4f7 15. A comparison of facial recognition's algorithms" By Nicolas Delbiaggio. 16. Fisher Faces Accuracy Result" [Online],Available at: https://answers.opencv.org/question/25901/accuracy-of-fisherfaces/ 17. M A Imran , M S U Miah, H Rahman "Face Recognition using Eigenfaces" ¹Computer Vision Lab Department of Computer Science American International University-Bangladesh, ² Vision Lab Department of Computer Science American International University-Bangladesh, ³ Vision Lab Department of Computer Science American International University-Bangladesh 		221-224
Authors:	Ravendra Kumar, Rahul Sajwan, Praveen Kumar Jha, Sachin Sharma							
Paper Title:	Challenges in Face Detection and Recognition Techniques							
<p>Abstract: Face Recognition System is popular topic in the biometric world .This system provide Features to detect the person's face and identify on basis of existing records in database .The aim of this study is to described how to show various facial features of an image. Face Recognition system, based on Biometric AI, uniquely finds out a person by analyzing the person's facial textures and shape. In this paper, our aim is to study various face detect and recognition techniques such as Harr Like Feature Algorithm resulting to retort criminality and public crisis. Also, some facial recognition approaches PCA and LDA have been discussed in the research paper for abstracting the image information.</p> <p>Keyword- Face recognition system, biometric, database, facial features.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Faizan Ahmad , AaimaNajam and Zeeshan Ahmed," Image-based Face Detection and Recognition" ¹ Department of Computer Science & Engineering, Beijing University of Aeronautics & Astronautics,² Department of Computer Science, COMSATS Institute of Information Technology,³Department of Information Technology, Education University 2. Sujata G. Bhele and V. H. Mankar"A Review Paper on Face Recognition Techniques", International Journal of Advanced Research in Computer Engineering &Technology (IJARCET) "Volume 1, Issue 8, October 2012 3. Michel Owayjan, AmerDergham, Gerges Haber, Nidal Fakh, Ahmad Hamoush, ElieAbdo ,"Face Recognition Security System." American University of Science and Technology (AUST) Departments of Computer and Communications Engineering and Computer Science" 4. LBPH algorithm for Face Recognition"[Online], Available at: https://iq.opengenus.org/lbph-algorithm-for-face-recognition/ 5. Face recognition: Understanding LBPH algorithm" [Online],Available at:https://towardsdatascience.com/face-recognition-how-lbph-works-90ec258c3d6b 6. Face detection for beginners" [online] Available at:https://towardsdatascience.com/face-detection-for-beginners-e58e8f21aad9 7. "Eigenfaces vs. Fisherfaces: Recognition Using Class Specific Linear Projection" Research by Peter N. Belhumeur, Joao P. Hespanha, David J. Kriegman 8. [8] "A comparison of facial recognition's algorithms" Research By Nicolas Delbiaggio. 9. General Pose Face Recognition Using Frontal Face Model Research By-Jean-Yves Guillemaut, Josef Kittler, Mohammad T. Sadeghi, and William J. Christmas. 10. Face Recognition and Drunk Classification Using Infrared Face Images" Research by Gabriel Hermosilla, José Luis Verdugo, Gonzalo Farias, Esteban Vera, Francisco Pizarro and Margarita Machuca 11. Deep Face Recognition" Research By- Omkar M. Parkhi, Andrea Vedaldi, Andrew Zisserman. 12. Side-View Face Recognition" Research by- Pinar Santemiz, Luuk J. Spreuwers, Raymond N.J. Veldhuis. 13. Age Sensitivity of Face Recognition Algorithms" Research by- Mohd Yassin, S Hoque, F. Deravi. 14. "Face Recognition using Eigenfaces Technique"[Online] ,Available at:https://medium.com/@devalshah1619/face-recognition-using-eigenfaces-technique-f221d505d4f7 15. A comparison of facial recognition's algorithms" By Nicolas Delbiaggio. 16. Fisher Faces Accuracy Result" [Online],Available at: https://answers.opencv.org/question/25901/accuracy-of-fisherfaces/ 17. M A Imran , M S U Miah, H Rahman "Face Recognition using Eigenfaces" ¹Computer Vision Lab Department of Computer Science American International University-Bangladesh, ² Vision Lab Department of Computer Science American International University-Bangladesh, ³ Vision Lab Department of Computer Science American International University-Bangladesh 								
41.	<table border="1"> <tr> <td>Authors:</td> <td>Christina Subiksha W, Nandhini A, Bharath K P, Mahalti Mohammed Sohail, Rajesh Kumar M</td> </tr> <tr> <td>Paper Title:</td> <td>Speech Signal Analysis and Classification of Dominant Parameter for Pathological Voices</td> </tr> <tr> <td colspan="2"> <p>Abstract: The primary objective of the project is to analyze speech signals by determining the important parameters that affect the voice of an individual which leads to various voice disorders. The analysis is carried</p> </td> </tr> </table>	Authors:	Christina Subiksha W, Nandhini A, Bharath K P, Mahalti Mohammed Sohail, Rajesh Kumar M	Paper Title:	Speech Signal Analysis and Classification of Dominant Parameter for Pathological Voices	<p>Abstract: The primary objective of the project is to analyze speech signals by determining the important parameters that affect the voice of an individual which leads to various voice disorders. The analysis is carried</p>		225-231
Authors:	Christina Subiksha W, Nandhini A, Bharath K P, Mahalti Mohammed Sohail, Rajesh Kumar M							
Paper Title:	Speech Signal Analysis and Classification of Dominant Parameter for Pathological Voices							
<p>Abstract: The primary objective of the project is to analyze speech signals by determining the important parameters that affect the voice of an individual which leads to various voice disorders. The analysis is carried</p>								

out based on the individual's age and gender with the help of the pattern recognized from each sample and the value of each parameter is compared with the nominal values of the healthy person with respect to their age and gender using the Praat software. The secondary objective is the classification of the voice signal into normal and abnormal voice samples using the machine learning software Konstanz Information Miner (KNIME).

Keywords: Harmonics-to-noise ratio (HNR), Jitter, Konstanz Information Miner (KNIME), Praat, Shimmer.

References:

1. Elizabeth S. Hasseltine, Shannon F. Black, Tayler M. Corcoran, Danika L. DiPalma, Susan E. Dixon, Anne T. Gooch, Lauren M. Hurlburt, Ashton B. Murray, Kathryn B. Potts, Anna C. Schnizler, Caitlin Secrist, Roma Marisa Shickel, Filip Loncke, and Paul Corthals, "Predicting Stuttering Severity Ratings by Timing and Tallying Dysfluencies Using Praat Software," *Contemporary Issues in Communication Science and Disorders*, vol. 43, pp. 106-114, 2016.
2. Mansi Kumbhakarn, and Bageshree Sath-pathak, "Analysis of emotional state of a person and its effect on speech features using PRAAT software," *International Conference on Computing Communication Control and Automation*, 2015.
3. Betül Erdogdu Sakar, M. Erdem Isenku, C. Okan Sakar, Ahmet Sertbas, Fikret Gurgun, Sakir Delil, Hulya Apaydin, and Olcay Kursun, "Collection and analysis of a Parkinson speech dataset with multiple types of sound recordings," *IEEE Journal of Biomedical and Health Informatics*, vol. 17, no. 4, pp. 828-834, 2013.
4. Carlos Busso, Zhigang Deng, Serdar Yildirim, Murtaza Bulut, Chul Min Lee, Abe Kazemzadeh, Sungbok Lee, Ulrich Neumann, and Shrikanth Narayanan, "Analysis of emotion recognition using facial expressions, speech and multimodal information," *International Conference on Multimodal Interfaces*, pp. 205-211, 2004.
5. Minu George Thoppil, C. Santhosh Kumar, Anand Kumar, and John Amose, "Speech signal analysis and pattern recognition in diagnosis of dysarthria," *Annals of Indian Academy of Neurology*, vol. 20, no. 4, pp. 352-357, 2017.
6. Tan Tze Ern Shannon, Dai Jingwen Annie, and See Swee Lan, "Speech analysis and depression," *Asia-Pacific Signal and Information Processing Association Annual Summit and Conference (APSIPA)*, 2016.
7. Haritha C. K., Ana P., Shahanas V. P., and Jenny Mevis D'souza, "Establishment of Acoustic Norms for PRAAT Software in 20-25 Year Old Indian Adults," *Language in India*, vol. 16, no. 8, 2016.
8. Magdalena Majdak, Magdalena Igras, and Anna Domeracka-Kołodziej, "Looking for natural voice-The effectiveness of the program of Postgraduate Studies of Voice and Speech Training," *XXII Annual Pacific Voice Conference (PVC)*, 2014.
9. Bahman Gorjian, Abdolmajid Hayati, and Parisa Pourkhoni, "Using Praat software in teaching prosodic features to EFL learners," *World Conference on Psychology, Counselling and Guidance (WCPCG)*, vol. 84, pp. 34-40, 2013.
10. Lamia Bouafif, and Kais Ouni, "A speech tool software for signal processing applications," *International Conference on Sciences of Electronics, Technologies of Information and Telecommunications (SETIT)*, 2012.
11. Sonu, and R. K. Sharma, "Disease Detection Using Analysis of Voice Parameters," *International Journal of Computing Science and Communication Technologies*, vol. 4, no. 2, pp. 416-420, 2012.

42.	Authors: Nandhini A, Bharath K P, Mahalti Mohammed Sohail, Rajesh Kumar M	
	Paper Title: Denoising of Speech Signal using Empirical Mode Decomposition and Kalman Filter	
	<p>Abstract: Speech denoising is the process of removing the noise from the noise corrupted speech. The applications of speech denoising are used in speech enhancement, speech recognition and many more. In this work, a new approach is proposed to de-noise the speech which is corrupted from different noises, Empirical mode decomposition and the Kalman filter (EMD-KF) is used for speech denoising in the proposed work. The clean speech is corrupted by the noise with the different SNR's, and further Empirical mode decomposition (EMD) is applied to the noise corrupted speech later the obtained resultant speech is passed through the Kalman filter (KF) which gives the denoised speech. The result shows that the mean squared error (MSE) values of EMD-KF are extremely less when compared to other methods like discrete wavelet transform (wavelet families like Daubechies and Symlet), empirical mode decomposition (EMD) and moving average filter followed by empirical mode decomposition (MA-EMD). As an application the proposed algorithm is used in the feature extraction for speech recognition. Mel frequency cepstral coefficient (MFCC) is performed on both the original speech and the denoised speech and found majority of the denoised speech features are similar to the original speech features and few denoised speech features are nearby to the original speech features.</p> <p>Keywords: Empirical mode decomposition (EMD), Kalman filter (KF), Mel-frequency cepstral coefficient (MFCC), Speech denoising.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Yash Vardhan Varshney, Z. A. Abbasi, M. R. Abidi, and Omar Farooq, "SNMF based speech denoising with wavelet decomposed signal selection," <i>International Conference on Wireless Communications, Signal Processing and Networking (WiSPNET)</i>, 2017. 2. Hongqing Liu, Ruibo Zhang, Yi Zhou, Xiaorong Jing, and Trieu-Kien Truong, "Speech denoising using transform domains in the presence of impulsive and gaussian noises," <i>IEEE Access</i>, vol. 5, pp. 21193 - 21203, 2017. 3. Peng Xiong, Hongrui Wang, Ming Liu, Suiping Zhou, Zengguang Hou, and Xiuling Liu, "ECG signal enhancement based on improved denoising auto-encoder," <i>Engineering Applications of Artificial Intelligence</i>, vol. 52, pp. 194 – 202, 2016. 4. Shubhratha S, D. K. Kumuda, "Performance of empirical mode decomposition and wavelet transform in denoising of audio signal," <i>International Journal of Industrial Electronics and Electrical Engineering</i>, vol. 4, 2016. 5. Tassadaq Hussain, Sabato Marco Siniscalchi, Chi-Chun Lee, Syu-Siang Wang, Yu Tsao, and Wen-Hung Liao, "Experimental study on extreme learning machine applications for speech enhancement," <i>IEEE Access</i>, vol. 5, pp. 25542–25554, 2017. 6. Yu-Cheng Su, Yu Tsao, Jung-En Wu, and Fu-Rong Jean, "Speech enhancement using generalized maximum a posteriori spectral amplitude estimator," <i>IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)</i>, pp. 7467–7471, 2013. 7. Christoph F. Stallmann, and Andries P. Engelbrecht, "Gramophone noise detection and reconstruction using time delay artificial neural networks," <i>IEEE Transactions on Systems, Man, and Cybernetics: Systems</i>, vol. 47, no. 6, pp. 893–905, 2017. 8. Chengli Sun, Qin Zhang, Jian Wang, and Jianxiao Xie, "Noise reduction based on robust principal component analysis," <i>Journal of Computational Information Systems</i>, vol. 10, no. 10, pp. 4403–4410, 2014. 	232-237

	<ol style="list-style-type: none"> 9. Szu-Wei Fu, Yu Tsao, Xugang Lu, and Hisashi Kawai, "Raw waveform-based speech enhancement by fully convolutional networks," Asia-Pacific Signal and Information Processing Association Annual Summit and Conference (APSIPA ASC), 2017. 10. Nikolaos Dionelis, and Mike Brookes, "Modulation-Domain kalman filtering for monaural blind speech denoising and dereverberation," IEEE/ACM Transactions on Audio, Speech, and Language Processing, vol. 27, no. 4, pp. 799-814, April 2019. 11. Ying-Hui Lai, Fei Chen, Syu-Siang Wang, Xugang Lu, Yu Tsao, and Chin-Hui Lee, "A Deep denoising autoecoder approach to improving the intelligibility of vocoded speech in cochlear implant simulation," IEEE Transactions on Biomedical Engineering, vol. 64, no. 7, pp. 1568-1578, July 2017. 12. Haifa Touati, and Kais Khaldi, "Speech denoising by adaptive filter LMS in the EMD framework," International Multi-Conference on Systems, Signals & Devices (SSD), 2018. 13. Tomohiro Nakatani, and Keisuke Kinoshita, "A Unified convolutional beamformer for simultaneous denoising and dereverberation," IEEE Signal Processing Letters, vol. 26, no. 6, pp. 903-907, June 2019. 14. https://ecs.utdallas.edu/loizou/speech/noizeus/ 15. M. Mallikarjunan, P. Karmali Radha, K. P. Bharath, and Rajesh Kumar Muthu, "Text-Independent speaker recognition in clean and noisy backgrounds using modified VQ-LBG algorithm," Circuits, Systems, and Signal Processing, vol. 38, no. 6, pp. 2810-2828, June 2019. 16. Risanuri Hidayat, Agus Bejo, Sujoko Sumaryono, and Anggun Winursito, "Denoising speech for MFCC feature extraction using wavelet transformation in speech recognition system," International Conference on Information Technology and Electrical Engineering (ICITEE), 2018. 													
43.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Authors:</td> <td>A. Goutham Sai Mahesh, S Nivash, Revathi S</td> </tr> <tr> <td>Paper Title:</td> <td>Advantages of Spectrally Efficient Frequency Division Multiplexing Over Orthogonal Frequency Division Multiplexing</td> </tr> <tr> <td colspan="2">Abstract: An analysis on Spectrally Efficient Frequency Division Multiplexing (SEFDM) is contrast with Orthogonal Frequency Division Multiplexing (OFDM) considering the impact on Peak to Average Power Ratio (PAPR) and nonlinearities within fibre. With respect to OFDM the sub-carriers in SEFDM signals are compressed adjacent to each other at a rate of frequency lesser than the symbol rate. At the receiver end we have utilized the Sphere Decoder which is used to recover the data to remunerate the Interference created by the compressed signals (ICI) faced in the system. This research shows the advantages by using SEFDM and evaluates its achievement. PAPR. when compared with OFDM, while effects of non-linear fibres are considered. The use of various formats of modulation going from 4-QAM to 32-QAM, shows that the SEFDM signals have a noteworthy increment in the transmission length with respect to ordinary signals.</td> </tr> <tr> <td colspan="2">Keywords: Spectrally efficient frequency division multiplexing (SEFDM), orthogonal frequency division multiplexing (OFDM), optical fibre communication.</td> </tr> <tr> <td colspan="2">References:</td> </tr> <tr> <td colspan="2"> <ol style="list-style-type: none"> 1. P. J. Winzer, "High-spectral-efficiency optical modulation formats," J. Lightw. Technol., vol. 30, no. 24, pp. 3824–3835, Dec. 2012. 2. S. Chandrasekhar, X. Liu, B. Zhu, and D. W. Peckham, "Transmission of a 1.2-Tb/s 24-carrier no-guard-interval coherent OFDM super channel over 7200-km of ultra-large-area fiber," in Proc. IEEE Eur. Conf. Opt. Commun., 2009, Paper PD2.6.' 3. P. J. Winzer and R.-J. Essiambre, "Advanced modulation formats for high-capacity optical transport networks," J. Lightw. Technol., vol. 24, no. 12, pp. 4711–4728, Dec. 2006. 4. T. Jiang and Y. Wu, "An Overview: Peak-to-Average Power Ratio Reduction Techniques for OFDM Signals," in IEEE Transactions on Broadcasting, vol. 54, no. 2, pp. 257-268, June 2008. 5. B. Hassibi and H. Vikalo, "On the sphere-decoding algorithm I. Expected complexity," IEEE Trans. Signal Process., vol. 53, no. 8, pp. 2806–2818, Aug. 2005. 6. I. Kanaras, A. Chorti, M. Rodrigues, and I. Darwazeh, "A fast constrained sphere decoder for ill conditioned communication systems," IEEE Commun. Lett., vol. 14, no. 11, pp. 999–1001, Nov. 2010. 7. T. Xu et al., "Modulation format dependence of digital nonlinearity compensation performance in optical fibre communication systems," Opt. Exp., vol. 25, no. 4, pp. 3311–3326, 2017. 8. S. J. Savory, "Digital filters for coherent optical receivers," Opt. Exp., vol. 16, no. 2, pp. 804–817, 2008. 9. E. M. Ip and J. M. Kahn, "Compensation of dispersion and nonlinear impairments using digital backpropagation," J. Lightw. Technol., vol. 26, no. 20, pp. 3416–3425, Oct. 2008. </td> </tr> </table>	Authors:	A. Goutham Sai Mahesh, S Nivash, Revathi S	Paper Title:	Advantages of Spectrally Efficient Frequency Division Multiplexing Over Orthogonal Frequency Division Multiplexing	Abstract: An analysis on Spectrally Efficient Frequency Division Multiplexing (SEFDM) is contrast with Orthogonal Frequency Division Multiplexing (OFDM) considering the impact on Peak to Average Power Ratio (PAPR) and nonlinearities within fibre. With respect to OFDM the sub-carriers in SEFDM signals are compressed adjacent to each other at a rate of frequency lesser than the symbol rate. At the receiver end we have utilized the Sphere Decoder which is used to recover the data to remunerate the Interference created by the compressed signals (ICI) faced in the system. This research shows the advantages by using SEFDM and evaluates its achievement. PAPR. when compared with OFDM, while effects of non-linear fibres are considered. The use of various formats of modulation going from 4-QAM to 32-QAM, shows that the SEFDM signals have a noteworthy increment in the transmission length with respect to ordinary signals.		Keywords: Spectrally efficient frequency division multiplexing (SEFDM), orthogonal frequency division multiplexing (OFDM), optical fibre communication.		References:		<ol style="list-style-type: none"> 1. P. J. Winzer, "High-spectral-efficiency optical modulation formats," J. Lightw. Technol., vol. 30, no. 24, pp. 3824–3835, Dec. 2012. 2. S. Chandrasekhar, X. Liu, B. Zhu, and D. W. Peckham, "Transmission of a 1.2-Tb/s 24-carrier no-guard-interval coherent OFDM super channel over 7200-km of ultra-large-area fiber," in Proc. IEEE Eur. Conf. Opt. Commun., 2009, Paper PD2.6.' 3. P. J. Winzer and R.-J. Essiambre, "Advanced modulation formats for high-capacity optical transport networks," J. Lightw. Technol., vol. 24, no. 12, pp. 4711–4728, Dec. 2006. 4. T. Jiang and Y. Wu, "An Overview: Peak-to-Average Power Ratio Reduction Techniques for OFDM Signals," in IEEE Transactions on Broadcasting, vol. 54, no. 2, pp. 257-268, June 2008. 5. B. Hassibi and H. Vikalo, "On the sphere-decoding algorithm I. Expected complexity," IEEE Trans. Signal Process., vol. 53, no. 8, pp. 2806–2818, Aug. 2005. 6. I. Kanaras, A. Chorti, M. Rodrigues, and I. Darwazeh, "A fast constrained sphere decoder for ill conditioned communication systems," IEEE Commun. Lett., vol. 14, no. 11, pp. 999–1001, Nov. 2010. 7. T. Xu et al., "Modulation format dependence of digital nonlinearity compensation performance in optical fibre communication systems," Opt. Exp., vol. 25, no. 4, pp. 3311–3326, 2017. 8. S. J. Savory, "Digital filters for coherent optical receivers," Opt. Exp., vol. 16, no. 2, pp. 804–817, 2008. 9. E. M. Ip and J. M. Kahn, "Compensation of dispersion and nonlinear impairments using digital backpropagation," J. Lightw. Technol., vol. 26, no. 20, pp. 3416–3425, Oct. 2008. 		238-244
Authors:	A. Goutham Sai Mahesh, S Nivash, Revathi S													
Paper Title:	Advantages of Spectrally Efficient Frequency Division Multiplexing Over Orthogonal Frequency Division Multiplexing													
Abstract: An analysis on Spectrally Efficient Frequency Division Multiplexing (SEFDM) is contrast with Orthogonal Frequency Division Multiplexing (OFDM) considering the impact on Peak to Average Power Ratio (PAPR) and nonlinearities within fibre. With respect to OFDM the sub-carriers in SEFDM signals are compressed adjacent to each other at a rate of frequency lesser than the symbol rate. At the receiver end we have utilized the Sphere Decoder which is used to recover the data to remunerate the Interference created by the compressed signals (ICI) faced in the system. This research shows the advantages by using SEFDM and evaluates its achievement. PAPR. when compared with OFDM, while effects of non-linear fibres are considered. The use of various formats of modulation going from 4-QAM to 32-QAM, shows that the SEFDM signals have a noteworthy increment in the transmission length with respect to ordinary signals.														
Keywords: Spectrally efficient frequency division multiplexing (SEFDM), orthogonal frequency division multiplexing (OFDM), optical fibre communication.														
References:														
<ol style="list-style-type: none"> 1. P. J. Winzer, "High-spectral-efficiency optical modulation formats," J. Lightw. Technol., vol. 30, no. 24, pp. 3824–3835, Dec. 2012. 2. S. Chandrasekhar, X. Liu, B. Zhu, and D. W. Peckham, "Transmission of a 1.2-Tb/s 24-carrier no-guard-interval coherent OFDM super channel over 7200-km of ultra-large-area fiber," in Proc. IEEE Eur. Conf. Opt. Commun., 2009, Paper PD2.6.' 3. P. J. Winzer and R.-J. Essiambre, "Advanced modulation formats for high-capacity optical transport networks," J. Lightw. Technol., vol. 24, no. 12, pp. 4711–4728, Dec. 2006. 4. T. Jiang and Y. Wu, "An Overview: Peak-to-Average Power Ratio Reduction Techniques for OFDM Signals," in IEEE Transactions on Broadcasting, vol. 54, no. 2, pp. 257-268, June 2008. 5. B. Hassibi and H. Vikalo, "On the sphere-decoding algorithm I. Expected complexity," IEEE Trans. Signal Process., vol. 53, no. 8, pp. 2806–2818, Aug. 2005. 6. I. Kanaras, A. Chorti, M. Rodrigues, and I. Darwazeh, "A fast constrained sphere decoder for ill conditioned communication systems," IEEE Commun. Lett., vol. 14, no. 11, pp. 999–1001, Nov. 2010. 7. T. Xu et al., "Modulation format dependence of digital nonlinearity compensation performance in optical fibre communication systems," Opt. Exp., vol. 25, no. 4, pp. 3311–3326, 2017. 8. S. J. Savory, "Digital filters for coherent optical receivers," Opt. Exp., vol. 16, no. 2, pp. 804–817, 2008. 9. E. M. Ip and J. M. Kahn, "Compensation of dispersion and nonlinear impairments using digital backpropagation," J. Lightw. Technol., vol. 26, no. 20, pp. 3416–3425, Oct. 2008. 														
44.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Authors:</td> <td>Alarqam Saeed Batarfi Alkendi, Habib Khan</td> </tr> <tr> <td>Paper Title:</td> <td>Effect of Electronic Medical Record Systems on Patients, Physicians, and Healthcare Businesses</td> </tr> <tr> <td colspan="2">Abstract: Paper In the wake of a big shift of the world from the manual patient data management system to the automated process, many technologies have emerged. Needless to say that EMR is one epitome of such technological evolutions in the healthcare field. Though many hospitals as well as healthcare entities have acknowledged this and marching their services towards this change, some laggards persist. The present research tried to re-emphasize the significance of EMR by bringing the effect of EMR system on the group of stakeholders like patients, physicians and businesses from the response of hospital staff. The data, thus collected by sharing the google questionnaire to the staff of both type of branches has fetched 325 responses from the non-EMR implemented hospitals and 308 responses from the EMR implemented hospitals. It is obtained from the results that all the workflows are vital for the process of EMR implementation and are inter-dependent.</td> </tr> <tr> <td colspan="2">Keywords: EMR – Electronic Medical Record; EMR Effect.</td> </tr> <tr> <td colspan="2">References:</td> </tr> <tr> <td colspan="2"> <ol style="list-style-type: none"> 1. Reis, Z. S. N., Maia, T. A., Marcolino, M. S., Becerra-Posada, F., Novillo-Ortiz, D., & Ribeiro, A. L. P. (2017). Is There Evidence of Cost Benefits of Electronic Medical Records, Standards, or Interoperability in Hospital Information Systems? Overview of Systematic Reviews. JMIR Medical Informatics, 5(3). </td> </tr> </table>	Authors:	Alarqam Saeed Batarfi Alkendi, Habib Khan	Paper Title:	Effect of Electronic Medical Record Systems on Patients, Physicians, and Healthcare Businesses	Abstract: Paper In the wake of a big shift of the world from the manual patient data management system to the automated process, many technologies have emerged. Needless to say that EMR is one epitome of such technological evolutions in the healthcare field. Though many hospitals as well as healthcare entities have acknowledged this and marching their services towards this change, some laggards persist. The present research tried to re-emphasize the significance of EMR by bringing the effect of EMR system on the group of stakeholders like patients, physicians and businesses from the response of hospital staff. The data, thus collected by sharing the google questionnaire to the staff of both type of branches has fetched 325 responses from the non-EMR implemented hospitals and 308 responses from the EMR implemented hospitals. It is obtained from the results that all the workflows are vital for the process of EMR implementation and are inter-dependent.		Keywords: EMR – Electronic Medical Record; EMR Effect.		References:		<ol style="list-style-type: none"> 1. Reis, Z. S. N., Maia, T. A., Marcolino, M. S., Becerra-Posada, F., Novillo-Ortiz, D., & Ribeiro, A. L. P. (2017). Is There Evidence of Cost Benefits of Electronic Medical Records, Standards, or Interoperability in Hospital Information Systems? Overview of Systematic Reviews. JMIR Medical Informatics, 5(3). 		245-254
Authors:	Alarqam Saeed Batarfi Alkendi, Habib Khan													
Paper Title:	Effect of Electronic Medical Record Systems on Patients, Physicians, and Healthcare Businesses													
Abstract: Paper In the wake of a big shift of the world from the manual patient data management system to the automated process, many technologies have emerged. Needless to say that EMR is one epitome of such technological evolutions in the healthcare field. Though many hospitals as well as healthcare entities have acknowledged this and marching their services towards this change, some laggards persist. The present research tried to re-emphasize the significance of EMR by bringing the effect of EMR system on the group of stakeholders like patients, physicians and businesses from the response of hospital staff. The data, thus collected by sharing the google questionnaire to the staff of both type of branches has fetched 325 responses from the non-EMR implemented hospitals and 308 responses from the EMR implemented hospitals. It is obtained from the results that all the workflows are vital for the process of EMR implementation and are inter-dependent.														
Keywords: EMR – Electronic Medical Record; EMR Effect.														
References:														
<ol style="list-style-type: none"> 1. Reis, Z. S. N., Maia, T. A., Marcolino, M. S., Becerra-Posada, F., Novillo-Ortiz, D., & Ribeiro, A. L. P. (2017). Is There Evidence of Cost Benefits of Electronic Medical Records, Standards, or Interoperability in Hospital Information Systems? Overview of Systematic Reviews. JMIR Medical Informatics, 5(3). 														

2. Almuayqil, S., Atkins, A. S., & Sharp, B. (2016). Ranking of E-Health Barriers Faced by Saudi Arabian Citizens, Healthcare Professionals and IT Specialists in Saudi Arabia. *Health*, 8(10), 1004.
3. Bah, S., Alharthi, H., El Mahalli, A. A., Jabali, A., Al-Qahtani, M., & Al-kahtani, N. (2011). Annual survey on the level and extent of usage of electronic health records in government-related hospitals in Eastern Province, Saudi Arabia. *Perspectives in health information management / AHIMA, American Health Information Management Association*, 8.
4. Aziz, H. A. (2017). A review of the role of public health informatics in healthcare. *Journal of Taibah University Medical Sciences*, 12(1), 78-81. doi: 10.1016/j.jtumed.2016.08.011.
5. Brock, V. F. and Khan H.U. (2017a), "Big data analytics: does organizational factor matters impact technology acceptance?", *Journal of Big Data*, Vol.4, No.1, pp.1:28.
6. El Mahalli, A. A. (2015). Electronic health records: Use and barriers among physicians in eastern province of Saudi Arabia. *Saudi Journal for Health Sciences*, 4(1), 32.
7. Alharbe, N. and Atkins, A. S. (2014). A study of the application of automatic healthcare tracking and monitoring system in Saudi Arabia. *International Journal of Pervasive Computing and Communications*, 10(2), 183-195. doi: 10.1108/IJPC-03-2014-0026
8. Al-Hibshi, S. M., Al – Raddadi, R. M. and Assery, M. K. (2016), 'Discrepancies between dental and medical records of cardiac patients in AlHada Armed Forces Hospital, Taif, Saudi Arabia. *Journal of International Society of Preventive & Community Dentistry*, Vol. 6 No. 6, pp. 568-574.
9. Al-Rubeaan, K. (2013). A Web-based interactive diabetes registry for health care management and planning in Saudi Arabia. *Journal of medical Internet research*, Vol. 15 No. 9, e202.
10. Alharthi, H., Youssef, A., Radwan, S., Al-Muallim, S. and Al-Tuwaileb, Z. (2014), 'Physician satisfaction with electronic medical records in a major Saudi Government hospital', *Journal of Taibah University Medical Sciences*, Vol. 9 No. 3, pp. 213-218.
11. Alsulame, K., Khalifa, M. and Househ, M. (2016), 'E-Health status in Saudi Arabia: A review of current literature', *Health Policy and Technology*, Vol. 5 No. 2, pp. 204-210.
12. HealthIT.gov. (02-January-2015). What Is an Electronic Medical Record Available:
13. <http://www.healthit.gov/providers-professionals/electronic-medical-records-emr>
14. Ravindra, S. S., Chandra, R., and Dhenesh, V. S. (2015), 'A Study of the Management of Electronic Medical Records in Fijian Hospitals', arXiv preprint arXiv:1507.03659.
15. Shaker, H. A., Farooq, M. U. and Dhafar, K. O. (2015), 'Physicians' perception about electronic medical record system in Makkah Region, Saudi Arabia', *Avicenna Journal Of Medicine*, Vol. 5, No. 1, pp. 1.
16. Weber, A. S., Turjoman, R., Shaheen, Y., Al Sayyed, F., Hwang, M. J. and Malick, F. (2017), 'Systematic thematic review of e-health research in the Gulf Cooperation Council (Arabian Gulf): Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and United Arab Emirates', *Journal of Telemedicine and Telecare*, Vol. 23 No. 4, pp. 452-459. doi: 10.1177/1357633X16647894
17. El-Sofany, H., (2012), 'Data Exchange Model of Patient Records in Kingdom of Saudi Arabia Using Cloud Computing', *International Journal of In-novation, Management and Technology*, Vol. 3, No. 5.
18. Al-Khalifa, M., Khatoon, S., Mahmood, A. and Fatima, I. (2012), 'Factors Influencing Patients' Attitudes to Exchange Electronic Health Information in Saudi Arabia', *International Journal of Advanced Computer Science and Applications*, Vol. 7, No. 8, pp. 197-204.
19. Alasmay, M., El-Metwally, A. and Househ, M. (2014), 'The association between computer literacy and training on clinical productivity and user satisfaction in using the electronic medical record in Saudi Arabia', *Journal of medical systems*, Vol. 38 No. 8, pp. 69.
20. Alsultan, M. S., Ahmed Y. Mayet, A. Y., Khurshid, F. and Al-jedai, A. H. (2013), 'Hospital pharmacy practice in Saudi Arabia: Drug monitoring and patient education in the Riyadh region', *Saudi Pharmaceutical Journal: SPJ: 'The Official publication of the Saudi Pharmaceutical Society*, Vol. 21, No. 4, pp. 361–370.
21. Chen, L.H., Khan H.U., Hamami H. (2021), "An Empirical Study of Lenders' Perception of Chinese Online P2P Lending Platforms", *The Journal of Alternative Investments*, Forthcoming
22. Khan, H.U. and Alshare, K. (2019) 'Violators versus non-violators of information security measures in organizations—A study of distinguishing factors', *Journal of Organizational Computing and Electronic Commerce*, Vol. 29, No.1, P.4-23.
23. Khan H.U. (2020), "The Role Of Smac (Social Media, Mobility, Analytics, Cloud) For Students And Educators In Online Education", *Journal of Theoretical and Applied Information Technology*, Vol. 98, No. 6, pp: 915-934.
24. Khan, H.U. and Saied, D.E.E.L., (2019) 'Pre and Post Implementation Of Integrated Health System: A Case Study Of Leading Gulf Country', *International Journal of Services and Operations Management*, Vol. 33. No. 1., pp. 113-133.
25. Peacock, D., & Khan H.U. (2019), "Effectiveness Of Social Media Sentiment Analysis Tools With The Support Of Emoticon/Emoji", 16th International Conference on Information Technology: New Generations, ITNG 2019, IEEE Conference, Las Vegas, Nevada, USA, April 1 - 03, 2019. (Conference Proceeding).
26. Khan H.U. & Peacock, D. (2019), "Possible effects of Emoticon and Emoji on Sentiment Analysis Web Services of Work Organizations", *International Journal of Work Organization and Emotion*, Vol 10, No. 2, pp:130:161.
27. Khan H.U., Hamami H.(2019), "Measuring Internet Addiction In Europe Based Knowledge Societies: A Case Study Of France", *Int. J. of Business Information Systems (IJBIS)*, Vol.32, No.2 pp.199:218 [Scopus Indexed, Inderscience].
28. Khan H.U., Aruya, J.A., Gill, A. Q. (2021), "Web 2.0 Technologies Adoption Barriers for External Contacts and Participation: A Case Study of Federal Establishment of Africa", *International Journal of Business Information Systems*, Forthcoming.
29. Khan H.U. (2020), "Possible Linkage Between Internet Addiction, Socio-Demographic, And Behavioral Constructs: A Case Study Of Saudi Arabia And Bahrain Based Employees", *International Journal of Work Organization and Emotion*, Forthcoming
30. Madhuri, M., Gill, A. Q., Khan, H. (2020). "IoT-enabled Smart Child Safety Digital System Architecture.", *IEEE 14 International Conference on Semantic Computing*, San Diego, USA, Feb 1 - 03, 2020. (Conference Proceeding)
31. Awan, M. A., Khan H.U. and Zhang, W. (2012) 'A comparative study on Online Service Quality Perception of two Major Regional Economies', *International Journal of e-Education, e-Business, e-Management and e-Learning(IJEEEE)*, Vol. 2, No.6, P.529-551.
32. Najmi, E., Hashmi, K., Malik, Z., Rezgui, A., Khan, H.U. (2015), "CAPRA: a comprehensive approach to product ranking using customer reviews", *Computing*, Vol. 97, No. 8, pp: 843-867.,
33. Heang, J.F., and Khan, H.U. (2015), "The Role of Internet Marketing in the Development of Agricultural Industry: A Case Study of China", *Journal of Internet Commerce*, Vol. 14, Issue.1 , pp. 1-49.
34. Halabi A. E., Hachem A., Al-Akhrass L., Artail H., Khan H.U. (2014), "Identifying the linkability between Web servers for Enhanced Internet Computing", 17th IEEE Mediterranean Electrotechnical Conference MELECON 2014, 13-16 April, Beirut, Lebanon. (Conference Proceeding)
35. Hassan, I. M., Khan, H. U. and Lalitha, M. (2016) 'Pedagogical Potentials of IEEE 802.11 WLAN to Nigerian Universities: A Case Study of the University of Uyo', *International Journal of Information and Education Technology*, Vol. 6, No. 4, pp. 256-261.
36. Khan, H.U. (2013a) 'Use of e-learning tools to solve group work problems in higher education: A Case study of gulf countries', *The Advances in Computer Science: an International Journal*, Vol. 2, No. 3, pp.90-96.
37. Khan, H.U. (2016), "Possible effect of video lecture capture technology on the cognitive Empowerment of higher education students: a case study of gulf-based university", *International Journal of Innovation and Learning*, Vol.20, No. 1, pp. 68: 84.
38. Khan, H.U. (2013b) 'Role of Computer Mediated Communication in Affect Empowerment and Performance Improvement',

- IFRSA's International Journal of Computing, Vol.3, No.3, P.165-171.
39. Khan, H.U. (2012) 'Computer Mediated Communication, Quality of Learning, and Performance', Journal of GSTF Business Review, Vol. 1, No. 3, pp. 81-88.
 40. Khan, H.U., Artail, H., Malik, Z., Niazi, M.(2014a) 'Information Technology Adoption, possible challenges, and Framework of Supply Chain Management: A Case Study of a Leading Gulf Economy', 4th International Conference on International Conference on International Conference on Engineering Technology and Technopreneurship, Kuala Lumpur, Malaysia.
 41. Khan, H.U., Ahmed, S., Abdollahian, M. (2013) 'Supply chain technology acceptance, adoption, and possible challenges: A case study of service organizations of Saudi Arabia', 10th International Conference on Information Technology: New Generations (ITNG 2013), Las Vegas, Nevada, USA.
 42. Askoul, R., Khan, H.U. and Madhavi Lalitha, V.V. (2016) 'Cross-functional integration of marketing and information services in banking: a cross-industry comparison', International. Journal of Process Management and Benchmarking, Vol. 6. No. 1. pp. 57-78.
 43. Khan, H.U., Awan, M.A., Ho. H.C. (2014b), "How do Chinese and Saudi Customers Perceive Online Service Quality? A Comparative Study", The Journal of Business Inquiry, Vol. 13, No. 2, pp.142-157.
 44. Musa A., Khan, H.U., Alshare, K. (2015), "Factors influence consumers' adoption of mobile payment devices in Qatar", International Journal of Mobile Communications, Vol. 13, No. 6. pp. 670-689.
 45. Khan, H.U., Omonaiye, J.F., and Madhavi Lalitha, V.V. (2017a) "Employees' perception as internal customers about online services: A case study of banking sector in Nigeria", International Journal of Business Innovation and Research, Vol.13, No.2, pp.181:202.
 46. Brock, V. F. and Khan H.U. (2017b), "Are Enterprises Ready For Big Data Analytics? A Survey Based Approach", Int. J. of Business Information Systems, Vol.25, No.2, pp.256:277.
 47. Das, A. and Khan, H.U. (2016) "Security behaviors of smartphone users", Information and Computer Security, Information and Computer Security, Vol. 24, No.1, pp. 116-134.
 48. Awan, M.A., and Khan, H.U. (2016), "Status of Internet Addiction among College Students: A Case of South Korea", First American Academic Research Conference on Global Business, Economics, Finance and Social Sciences (AAR16 New York Conference), New York, USA, May 25- May 28, 2016. (Conference Proceeding).
 49. Khan, H.U. and Fournier-Bonilla, S. D. (2016), "Technological Infrastructure Effects on Export Diversification: A Case Study of Qatar", Northeast Decision Sciences Institute Conference, Alexandria, Virginia, USA, March 31st – April 2nd, 2016. (Conference Proceeding).
 50. Khan, H.U., Fournier-Bonilla, S. D., Jinugu, A., Madhavi Lalitha, V.V. (2016), "Possible Challenges of the Successful Implementation of CRM in the Service Sector: A Case Study of Saudi Arabia", Northeast Decision Sciences Institute Conference, Alexandria, Virginia, USA, March 31st – April 2nd, 2016. (Conference Proceeding).
 51. Khan, H.U. and Alhousseini, A. (2015), "Optimized Web Design in the Saudi Culture", IEEE Science and Information Conference 2015, London, UK, July 28 - 30, 2015. pp.906-915 [Co-sponsored by Springer].
 52. Khan, H.U., Uwemi, S. (2018a) "Possible Impact Of E-Commerce Strategies On The Utilization Of E-Commerce In Nigeria", International Journal of Business Innovation and Research, vol. 15, No. 2., Pp. 231-246.
 53. Khan, H.U., Uwemi, S. (2018b) "What are e-commerce possible challenges in developing countries: a case study of Nigeria", International Journal of Business and Systems Research, Vol. 12, No. 4, pp: 454-486.
 54. Uwemi, S., Khan, H.U. (2016), "E-commerce, Challenges, and Developing Countries", 2016 DSI Annual Meeting in Austin, TX, USA. November 19th – November 22nd, 2016. (Conference Proceeding).
 55. Bashir, G. M., Khan, H.U (2016b), "Factors Affecting Learning Capacity Of Information Technology Concepts In A Classroom Environment Of Adult Learner", 15th International Conference on Information Technology Based Higher Education and Training (IEEE Conference), Istanbul, Turkey, September 8th – September 10, 2016. (Conference Proceeding).
 56. Bashir, G. M., Khan, H.U., Fournier-Bonilla, S. D. (2016), "Applying Andragogy Theory to an Adult Multicultural Audience: How Cultural Factors Influence the Capacity for Adults to Learn Information Technology Concepts in a Classroom Environment", Northeast Decision Sciences Institute Conference, Alexandria, Virginia, USA, March 31st – April 2nd, 2016. (Conference Proceeding).
 58. Hassan, I. M., Khan, H. U., Zaitun, R., Mardini, G. (2015), "Pedagogical Potentials of IEEE 802.11 WLAN to Higher Educational Institutions: A Case Study of Nigerian based University", IEEE 9th International Conference on Semantic Computing (IEEE ICSC 2015), Anaheim, CA, USA, Feb.7 - 9, 2015. (Conference Proceeding).
 59. Omonaiye, J.F., Madhavi Lalitha., Khan, H.U., Signh, R., Fournier-Bonilla, S. D. (2015), "Ability and hurdle to provide Banking online services: A case study of banking employees in Nigeria", 2015 IEEE 2nd International Conference on Cyber Security and Cloud Computing, New York, USA, November 03 - 05, 2015. (Conference Proceeding).
 60. Ejike, A. C. , Khan, H.U., Fournier-Bonilla, S. D. (2016), "Possible Impact of Mobile Banking on Traditional Banking: A Case Study of Nigeria", Northeast Decision Sciences Institute Conference, Alexandria, Virginia, USA, March 31st – April 2nd, 2016. (Conference Proceeding).
 61. Uwemi, S., Khan, H.U., Fournier-Bonilla, S. D. (2016), "Challenges of E-Commerce in Developing Countries: Nigeria As Case Study", Northeast Decision Sciences Institute Conference, Alexandria, Virginia, USA, March 31st – April 2nd, 2016. (Conference Proceeding).
 62. Ho, H. C., Awan, M. A., & Khan, H. U. (2016), "Luxury brands and corporate responsibility: A perspective on consumers' preferences", Journal of International Management Studies, 16(1), 77-81.
 63. Smuts, R.G., Lalitha, M., Khan, H.U. (2017), "Change Management Guidelines That Address Barriers To Technology Adoption In An HEI Context", 7th IEEE International Advance Computing Conference, Hyderabad, India, January 5 – 7, 2017. (Conference Proceeding).
 64. Bankole, O. A., Lalitha, M., Khan, H.U., Jinugu, A. (2017), "Information Technology In The Maritime Industry Past, Present And Future: Focus On Lng Carriers", 7th IEEE International Advance Computing Conference, Hyderabad, India, January 5 – 7, 2017. (Conference Proceeding).
 65. Khan, H.U. and Ejike, A.C. (2017) "An assessment of the impact of mobile banking on traditional banking in Nigeria", Int. J. Business Excellence, Vol.11, No.4, pp.446:463.
 66. Awan, M. A., Khan, H. U. & Ho, H. C. (2016), "Online Banking: A Comparative Study Of Chinese And Saudi Customers Perceptions Of Service Quality", Journal of Internet Banking and Commerce, vol. 21, no. S5, pp. 1-31.
 67. Khan, H.U. and Adediji, O.A. (2017) 'Need for RADAR system utilisation for maritime traffic management: a case of Congo River Basin', Int. J. Computational Systems Engineering, Vol.3, No. 3., pp163:174
 68. Khan, H.U., Bankole, O.A. and Alomari, M.K. (2017b) 'Possible effect of IT introduction into the election process: a case study of Nigeria', Int. J. Business Forecasting and Marketing Intelligence, Vol. 3, No. 2, pp.109-129.
 69. Saied, D.E.E.L., Khan, H.U. (2017) 'Implementation of Health Information System-A case study of Magrabi hospitals, KSA', Journal of Computer Science, Vol. 13. No. 5., pp. 91-104.
 70. Najmi E., Hashmi K., Malik Z., Rezgui, A., Khan H.U.(2014), "ConceptOnto: An upper ontology based on Conceptnet", 11th ACS/IEEE International Conference on Computer Systems and Applications (AICCSA' 2014), November 10-13, 2014, Doha, Qatar ,PP.366-372 (Conference Proceeding).
 71. Brock, V. F. and Khan H.U. (2017a), "Big data analytics: does organizational factor matters impact technology acceptance?", Journal of Big Data, Vol.4, No.1, pp.1:28.
 72. Khan H.U., Awan M.A.(2017), "Possible Factors Affecting Internet Addiction: A Case Study of Higher Education Students of

	<p>Qatar”, <i>Int. J. of Business Information Systems (JBIS)</i>, Vol.26, No.2 pp.261:276.</p> <p>73. Khan H.U., Awan M.A.(2019), “Can IT Industry Merger and Acquisition Effect on Brand Equity of their product/services? A case study from Qatar”, <i>Journal of Engineering and Applied Sciences</i>, Vol 14, No. 3., pp:1001-1013.</p> <p>74. Khan H.U., Gadhoun, Y.(2018), “Measuring Internet Addiction In Arab Based Knowledge Societies: A Case Study Of Saudi Arabia”, <i>Journal of Theoretical and Applied Information Technology</i>, Vol. 96, No. 6, pp: 1500:1518.</p> <p>75. Samad,H.S.I.A.,and Khan, H.U., (2017), “Adoption Of Cloud In Enterprises Environment”, 2017 DSI Annual Meeting in Washington, D.C., USA. November 18th – November 20th , 2017. (Conference Proceeding).</p> <p>76. Johannes,F.,and Khan, H.U., (2017), “IT-Business Strategies Alignment In Strategic Planning”, 2017 DSI Annual Meeting in Washington, D.C., USA. November 18th – November 20th , 2017. (Conference Proceeding).</p> <p>77. Samad,H.S.I.A., and Khan, H.U. (2018), “Adoption Of Cloud In Enterprises Environment”, International Conference on Innovations in Engineering, Technology and Sciences (IEEE Conference). September 20th – September 21st, 2018. (Conference Proceeding).</p> <p>78. Heang, F.J., Khan, H.U.,Kamal, D., Uwemi, S. (2019). “Internet Marketing Future And Chinese Agricultural Industry: A Case Study Approach”, <i>International Journal of Advances in Science Engineering and Technology</i>, Vol.5, No.9, pp: 115-118.</p> <p>79. Alkendi, A.S., Khan, H.U., Uwemi, S. (2019). “E-Health, Electronic Medical Record System, Patients, And Healthcare Industry”, <i>International Journal of Advances in Science Engineering and Technology</i>, Vol.7, No.3, pp: 100-103.</p>	
	<p>Authors: Sameer S Patil, Darshan G. Gaidhankar, Mrudula S. Kulkarni</p> <p>Paper Title: Ferrocement Panels Under Flexure By Partial Replacement of Cement With Marble Powder.</p> <p>Abstract: Ferrocement is largely used material in today’s modern structural engineering technology. In this case study the main aim is to study flexural behavior of ferrocement by replacing cement content by 5%. In this study, 40 cubes were tested to get desirable compression strength results and engineering properties input data. Various test specimens in the form of ferrocement plate of sizes (400x200x15) mm, (500x200x20) mm, (600x200x25) mm, (800x200x30) mm and tested analytically with three-point loading with linearly varying load. Equivalent stress and deflection are the main parameters of this study. From the results, it can be concluded that 5%replacement of marble powder and increasing number of layers has proven to be good at increasing strength and reducing deflections.</p> <p>Keywords : Ferrocement, Square weld mesh, Marble powder, Flexure Strength, Compressive Strength.</p> <p>References:</p> <ol style="list-style-type: none"> 1. M. H. M. B. Varma, “Flexural Behaviour of Ferro Cement Panels with Different Types of Meshes Government College of Engineering , Aurangabad,” vol. 3, no. 06, pp. 658–661, 2015. 2. R. J. P., “FLEXURAL BEHAVIOUR OF FERROCEMENT SLAB PANELS USING WELDED SQUARE MESH BY INCORPORATING STEEL FIBERS,” <i>Int. J. Res. Eng. Technol.</i>, 2014, doi: 10.15623/ijret.2014.0305140. 3. M. Rajendran and N. Soundarapandian, “An experimental investigation on the flexural behavior of geopolymer ferrocement slabs,” <i>J. Eng. Technol.</i>, 2013, doi: 10.4103/0976-8580.113047. 4. P. A. Damare, “UTILIZATION OF GRANITE POWDER IN CEMENT MORTAR,” 2017. 5. V. Kumar, Shruti, T. Sn, S. Sr, and Sricharan, “Partial Replacement of Cement to Concrete by Marble Dust Powder,” <i>Int. J. Mod. Trends Sci. Technol.</i>, no. May, p. 5, 2016. 6. www.google.co.in 7. www.youtube.com 	255-260
45.	<p>Authors: K Sai Vamsi, P. Pardha Saradhi, Visalakshi Annepu, Ravi Kumar C V, Kalapraveen Bagadi</p> <p>Paper Title: IoT Applications for Animal Tracking and Monitoring</p> <p>Abstract: This paper is about maintaining the surveillance of the wild animals to protect tribal and vice versa. As we know, tribal people who live in the forest areas have threat from the wild animals. So we have proposed an idea in such a way that it helps in protecting the tribal people. The idea says that firstly the wild animals are caught or brought together and a device is attached to them. With the device, we can track them in the forest or in the surrounding area with the help of GPS concept. Once a device or the animal which has the device gets tracked, the information or the data such as the proximity distance is immediately sent to the web application designed for this project. Further it alarms the villagers or the tribal people and informs to the forest officers, so that they can be taken under control. There is also a camera incorporated in the device. This will constantly capture the video surveillance from the animal’s point of view. If there occurs any instance of hunting (human detection) of endangered animals or any wildlife, the images of the people who get captured in the video feed are sent to the web application along with the location of the device at that particular instant of time. Human detection will be done using Haar cascade. This will help us in locating the exact area of occurrence of hunting and take extra precautions for the animals in such areas.</p> <p>Keywords: Animal tracking, web application, human detection, camera, GPS, video surveillance, Haar cascaded.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Fang, Y., Du, S., Abdoola, R., Djouani, K., & Richards, C. (2016). Motion based animal detection in aerial videos. <i>Procedia Computer Science</i>, 92, 13-17. 2. Handcock, R., Swain, D., Bishop-Hurley, G., Patison, K., Wark, T., Valencia, P., ... & O’Neill, C. (2009). Monitoring animal behaviour and environmental interactions using wireless sensor networks, GPS collars and satellite remote sensing. <i>Sensors</i>, 9(5), 3586-3603. 3. Kiani, F. (2018). Animal behavior management by energy-efficient wireless sensor networks. <i>Computers and Electronics in Agriculture</i>, 151, 478-484. 4. Kadibagil, Mahesh & Guruprasad, H S. (2014). Position Detection and Tracking System. <i>International Journal of Computer Science Information Technology and Security</i>. 4. 67-73. 5. E. D. Manley, H. Al Nahas and J. S. Deogun, "Localization and Tracking in Sensor Systems," <i>IEEE International Conference on Sensor Networks, Ubiquitous, and Trustworthy Computing (SUTC'06)</i>, Taichung, 2006, pp. 237-242. 	261-266
46.	<p>Authors: K Sai Vamsi, P. Pardha Saradhi, Visalakshi Annepu, Ravi Kumar C V, Kalapraveen Bagadi</p> <p>Paper Title: IoT Applications for Animal Tracking and Monitoring</p> <p>Abstract: This paper is about maintaining the surveillance of the wild animals to protect tribal and vice versa. As we know, tribal people who live in the forest areas have threat from the wild animals. So we have proposed an idea in such a way that it helps in protecting the tribal people. The idea says that firstly the wild animals are caught or brought together and a device is attached to them. With the device, we can track them in the forest or in the surrounding area with the help of GPS concept. Once a device or the animal which has the device gets tracked, the information or the data such as the proximity distance is immediately sent to the web application designed for this project. Further it alarms the villagers or the tribal people and informs to the forest officers, so that they can be taken under control. There is also a camera incorporated in the device. This will constantly capture the video surveillance from the animal’s point of view. If there occurs any instance of hunting (human detection) of endangered animals or any wildlife, the images of the people who get captured in the video feed are sent to the web application along with the location of the device at that particular instant of time. Human detection will be done using Haar cascade. This will help us in locating the exact area of occurrence of hunting and take extra precautions for the animals in such areas.</p> <p>Keywords: Animal tracking, web application, human detection, camera, GPS, video surveillance, Haar cascaded.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Fang, Y., Du, S., Abdoola, R., Djouani, K., & Richards, C. (2016). Motion based animal detection in aerial videos. <i>Procedia Computer Science</i>, 92, 13-17. 2. Handcock, R., Swain, D., Bishop-Hurley, G., Patison, K., Wark, T., Valencia, P., ... & O’Neill, C. (2009). Monitoring animal behaviour and environmental interactions using wireless sensor networks, GPS collars and satellite remote sensing. <i>Sensors</i>, 9(5), 3586-3603. 3. Kiani, F. (2018). Animal behavior management by energy-efficient wireless sensor networks. <i>Computers and Electronics in Agriculture</i>, 151, 478-484. 4. Kadibagil, Mahesh & Guruprasad, H S. (2014). Position Detection and Tracking System. <i>International Journal of Computer Science Information Technology and Security</i>. 4. 67-73. 5. E. D. Manley, H. Al Nahas and J. S. Deogun, "Localization and Tracking in Sensor Systems," <i>IEEE International Conference on Sensor Networks, Ubiquitous, and Trustworthy Computing (SUTC'06)</i>, Taichung, 2006, pp. 237-242. 	261-266

6. Handcock, R., Swain, D., Bishop-Hurley, G., Patison, K., Wark, T., Valencia, P., ... & O'Neill, C. (2009). Monitoring animal behaviour and environmental interactions using wireless sensor networks, GPS collars and satellite remote sensing. *Sensors*, 9(5), 3586-3603.
7. Dyo, V., Ellwood, S. A., Macdonald, D. W., Markham, A., Mascolo, C., Pásztor, B., ... & Yousef, K. (2010, November). Evolution and sustainability of a wildlife monitoring sensor network. In *Proceedings of the 8th ACM Conference on Embedded Networked Sensor Systems* (pp. 127-140). ACM.
8. Aemwal, V. B., Semwal, V. B., Sati, M., & Verma, S. (2011). Accurate location estimation of moving object In *Wireless Sensor network*. *IJMAL*, 1(4), 71-75.
9. Rahman, A., Smith, D. V., Little, B., Ingham, A. B., Greenwood, P. L., & Bishop-Hurley, G. J. (2018). Cattle behaviour classification from collar, halter, and ear tag sensors. *Information processing in agriculture*, 5(1), 124-133.
10. Kan, W., Huang, Y., Zeng, X., Guo, X., & Liu, P. (2018). A dual-mode proximity sensor with combination of inductive and capacitive sensing units. *Sensor Review*, 38(2), 199-206.
11. Eren, H., & Sandor, L. D. (2005, February). Fringe-effect capacitive proximity sensors for tamper proof enclosures. In *2005 Sensors for Industry Conference* (pp. 22-26). IEEE.
12. Boon Tatt Koik and Haidi Ibrahim, "A Literature Survey on Animal Detection Methods in Digital Images", *International Journal of Future Computer and Communication*, vol. 1, no. 1, June 2012.
13. Saieshwar Radhakrishnan and R Ramanathan, "A Support Vector Machine with Gabor Features for Intrusion Detection in Agriculture Fields", *8th International Conference on Advances in Computing and Communication (ICACC-2018) Procedia Computer Science*, pp. 493-501, 2018.
14. Usha Kiran Divya and M Praveen, "IOT-Based Wild Animal Intrusion Detection System", *International Journal on Recent and Innovation Trends in Computing and Communication*, vol. 6, no. 7, 2018.
15. Prakash Kumar and Pradeep Kumar, "Arduino Based Wireless Intrusion Detection Using IR Sensor and GSM", *International Journal of Computer Science and Mobile Computing*, vol. 2, no. 5, May 2013.
16. B Vikhram, B Revathi, R Shanmugapriya, S Sowmiya and G Pragadeeswaran, "Animal Detection System in Farm Areas", *International Journal of Advanced Research in Computer and Communication Engineering*, vol. 6, no. 3, March 2017.
17. Sahane Pradnya Smabhaji, Salunke Nikita Sanjiv, Shirsath Vitthal somanth and Shukla Shreyas Sanjay, "Early Warning System for Detection of Harmful Animals using IOT", *International Journal of Advance Research and Innovative Ideas in Education*, vol. 5, no. 3, pp. 2395-4396, 2019.
18. Neha Bhadwal, Vishu Madaan, Prateek Agrawal, Awadesh Shukla and Anuj Kakran, "Smart Border Surveillance System using Wireless Sensor Network and Computer Vision", *2019 International Conference on Automation Computational and Technology Management (ICACTM)*, pp. 183-190, 2019.
19. Rakesh Kalshetty and Asma Parveen, *A Various Surveillance and Detection Techniques Based on Wireless Sensor Networks*, no. 1846, 2019.
20. Kalathiripi Rambabu, V. Haritha, S. Nikhil Srinivas and P. Sanjana Reddy, "IoT Based Human Intrusion Detection System Using LabVIEW", *International Journal of Advanced Science and Technology* 127, no. 1, pp. 162-166, 2019.
21. Anna Triantafyllou, Panagiotis Sarigiannidis and Stamatia Bibi, "Precision Agriculture: A Remote Sensing Monitoring System Architecture", *Information*, vol. 10, no.11, pp. 348, 2019.

47. **Authors:** M.V.S Phani Narasimham, Y.V.S Sai Pragathi

Paper Title: Realtime Cost and Performance Improved Reservoir Simulator Service using ANN and Cloud Containers

Abstract: Real time reservoir simulation is growing demand while drilling to find new energy resources. Especially during drilling when the test data differs from actual data due to fault injections. This paper proposes a methodology using modified ANN scheduler using task characteristics and optimal cloud containers. Our methodology optimizes cost and end to end delay to achieve real time reservoir simulations. Realization of the paper is done using azure cloud resources and open porous media (OPM) reservoir simulator code. ANN based scheduling of cloud containers make the simulator energy efficient and scalable. Methodology uses microservice based architecture which gives the advantage of real time modifications, pluggability with minimum validation costs. Patent is demonstrated on 3-phase black oil well reservoirs - Input pod, Grid pod, Solver pods, Upscale pods, Output pods, 3D PODs. ANN scheduler with Ant Colony Optimization (ACO) will classify the input tasks based on task characteristics and schedule the POD containers on the optimal virtual machines (VMs). Proposed architecture is realized using Kubernetes docker containers on Microsoft azure linux VMs.

267-271

Keywords: Oil & Well Modeling, Microsoft Azure, Kubernetes, Reservoir Simulators, dockers, Load Balancer, Cloud Simulators.

References:

1. M. E. Eldred, A. Prangi, A. A. Al-Emadi, A. A. Ahmad, T. J. O'Reilly, N. Barghouti, M. Oil, "Reservoir Simulations in a High Performance Cloud Computing Environment", *Society of Petroleum Engineers, SPE-167877-MS*, 2014.
2. M. Th. Kotouza1, F. E. Psomopoulos and P. A. Mitkas1, "A dockerized framework for hierarchical frequency-based document clustering on cloud computing infrastructures", *Journal of cloud computing*, 2020, 9:2.
3. S N. Kayum, M. Rogowski, "High Performance Computing Applications Transition to the Cloud in the Oil & Gas Industry", *Sept 2019, IEEE High Performance Extreme Computing Conference*, At Waltham, USA.
4. S.K. Tesfatsion, E. Wadbro and J.Tordsson "PerfGreen: Performance and Energy Aware Resource Provisioning for Heterogenous Clouds", 3-7 Sept 2018, *IEEE International Conference on Autonomic Computing*.
5. S.K. Tesfatsion, E. Wadbro and J.Tordsson "A combined frequency scaling and application elasticity approach for energy efficient cloud computing", *Vol.4, Issue 4, Dec 2014, pg 205-214, Sustainable Computing: Informatics and Systems*.
6. Jyh-Shing Roger Jang, "ANFIS: Adaptive-Network-Based Fuzzy Inference System", *IEEE Transactions on Systems Man and Cybernetics*, June 1993.
7. Ghofrane Rehaïem, Hamza Gharsellaoui, Samir Ben Ahmed, "A Neural Networks Based Approach for the Real-Time Scheduling of Reconfigurable Embedded Systems with Minimization of Power Consumption.", *ICIS Conference*, At Okayama, Japan, June 2016, 10.1109/ICIS.2016.7550777.
8. S. Agantonovic-kustrin, R. Beresford, "Basic concepts of artificial neural network (ANN) modeling and its application in pharmaceutical research", *Journal of Pharmaceutical and Biomedical Analysis*, 22(2000) 717-727.
9. Mohammad A Ahmadi, "Comparison of machine learning methods for estimating permeability and porosity of oil reservoirs via petrophysical logs", *ScienceDirect, Petroleum*, 14 June 2018, <https://www.sciencedirect.com/science/article/pii/S2405656117301633>.
10. M.V.S Phani Narasimham, Dr. Y.V.S Sai Pragathi, "Development of realistic models of oil well by modeling porosity using modified ANFIS technique", *International Journal on Computer Science and Engineering*, Vol.11, No.07, July 2019.

	<ol style="list-style-type: none"> 11. Divya Doraya, "A Review Paper on Green Cloud Computing-A New form of Computing", International Journal of Advanced Research in Computer Science and Software Engineering, Vol.5, Issue 7, July 2015 ISSN: 2277 128X. 12. Alberto Nunez, Jose L.Vázquez-Poletti, Agustin C. Caminero, Gabriel G. Castañé, Jesus Carretero, Ignacio M. Llorente, "iCanCloud: A Flexible and Scalable Cloud Infrastructure Simulator", J Grid Computing (2012) 10:185–209. 13. Tibor Horvath, Tarek Abdelzaher, Kevin Skadron, "Dynamic Voltage Scaling in Multitier Web Servers with End-to-End Delay Control" IEEE Transactions on Computers, Vol. 56, No. 4, April 2007. 14. Tarek Ahmed, Paul D. McKinney, Advanced Reservoir Engineering", Book, ISBN 978-0-7506-7733-2, 2005, https://www.sciencedirect.com/book/9780750677332/advanced-reservoir-engineering. 	
48.	Authors: Abhishek Agrawal, Vibha Bora, Shailesh Bhalerao	
	Paper Title: Artificial Intelligence in Enterprise Resource Planning Logistics	
	<p>Abstract: Enterprise Resource Planning system allows the various business departments, differentiated by various places or utilities or services provided, to mobilize vital information which helps them to in an integrated single system. Suppose we consider an ERP unit that enables flawless flow of information among its continuous system of a producing process, like spare parts buyer’s facility, parts storehouse owned by producer, and producing and arranging unit. ERP allows us real time information transfer among various systems so as to maintain that the producing house has the required supply of necessary parts to ensure seamless working because of inadequate supply while also overcoming the problem of oversupply of parts.</p> <p>Artificial Intelligence can be used along with ERP systems. Such AI-enabled ERP systems not only provide benefit to single application only but also put a major impact which is more than the sum of individual parts. The various amounts of benefits of using AI-based ERP system, which basically comes from the majorly three features:Minimize data entryIntelligent data processingIntegrated data analytics.</p> <p>Keywords: AI, ERP,</p> <p>References:</p> <ol style="list-style-type: none"> 1. Srinivasan, D., Ruey Long Cheu, & Chuan Wei Tan. (n.d.). Development of an improved ERP system using GPS and AI techniques. Proceedings of the 2003 IEEE International Conference on Intelligent Transportation Systems. doi:10.1109/itsc.2003.1252014 2. Lujic, R., Simunovic, G., Saric, T., & Majdandzic, N. (n.d.). Applying artificial intelligence to the scheduling problem in the ERP system. 27th International Conference on Information Technology Interfaces, 2005. doi:10.1109/iti.2005.1491111 . 3. Min, H. (2009). Artificial intelligence in supply chain management: theory and applications. International Journal of Logistics Research and Applications, 13(1), 13–39. doi:10.1080/13675560902736537 4. Nycz, M., & Polkowski, Z. (2014). The ERP system as a basic system for business analyses. Proceedings of the 2014 6th International Conference on Electronics, Computers and Artificial Intelligence (ECAI). doi:10.1109/ecai.2014.7090182 5. Perboli, G., Musso, S., & Rosano, M. (2018). Blockchain in Logistics and Supply Chain: a Lean approach for designing real-world use cases. IEEE Access, 1–1. doi:10.1109/access.2018.2875782 6. Hua, H., & Zhang, Z. (2019). Application of Artificial Intelligence Technology in Short-range Logistics Drones. 2019 8th International Symposium on Next Generation Electronics (ISNE). doi:10.1109/isne.2019.8896417 7. Abduljabbar, R., Dia, H., Liyanage, S., & Bagloee, S. (2019). Applications of Artificial Intelligence in Transport: An Overview. Sustainability, 11(1), 189. doi:10.3390/su11010189 8. Kurniawan, Kuncoro, E. A., Wijanarko, B. D., & Ikhsan, R. B. (2018). Study of the Use of Artificial Intelligence in Strategic Planning in the Logistics Services Industry in Indonesia. 2018 International Conference on Computing, Engineering, and Design (ICCED). doi:10.1109/icced.2018.00030 9. S. Li, J. Yan and L. Li, "Automated Guided Vehicle: the Direction of Intelligent Logistics," 2018 IEEE International Conference on Service Operations and Logistics, and Informatics (SOLI), Singapore, 2018, pp. 250-255 	272-274
49.	Authors: Shweta Koparde, Anuja Bhondve, Vaishali Latke	
	Paper Title: Explanation Generation Mechanism for Black Box Recommendation Model	
	<p>Abstract: The recommender system is everywhere, and even streaming platform they have been looking for a maze of user available information handling products and services. Unfortunately, these black box systems do not have sufficient transparency, as they provide little description about the their prediction. In contrast, the white box system by its nature can produce a brief description. However, their predictions are less accurate than complex black box models. Recent research has shown that explanations are an important component in bringing powerful big data predictions and machine learning techniques to a mass audience without compromising trust. This paper proposes a new approach using semantic web technology to generate an explanation for the output of a black box recommender system. The developed model is trained to make predictions accompanied by explanations that are automatically extracted from the semantic network.</p> <p>Keywords: Recommender systems, Matrix factorization, Artificial intelligence, collaborative filtering, Explanation, Semantic network.</p> <p>References:</p> <ol style="list-style-type: none"> 1. K. SWEARINGEN AND R.R. SINHA, "THE ROLE OF TRANSPARENCY IN RECOMMENDER SYSTEMS", IN: EXTENDED ABSTRACTS OF THE 2002 CONFERENCE ON HUMAN FACTORS IN COMPUTING SYSTEMS, ACM, 2002. 2. MASTHOFF, J AND TINTAREV, N, "DESIGNING AND EVALUATING EXPLANATIONS FOR RECOMMENDER SYSTEMS", IN: RECOMMENDER SYSTEMS HANDBOOK, SPRINGER, 2011. 3. M. ZANKER, "THE INFLUENCE OF KNOWLEDGEABLE EXPLANATIONS ON USERS' PERCEPTION OF A RECOMMENDER SYSTEM", IN: SIXTH ACM CONFERENCE ON RECOMMENDER SYSTEMS, RECSYS, ACM, 2012. 4. MASTHOFF, J AND TINTAREV, N, "A SURVEY OF EXPLANATIONS IN RECOMMENDER SYSTEMS", IN: IEEE COMPUTER SOCIETY, 2007. 5. HERLOCKER, J, KONSTAN, J AND RIEDL, J, "EXPLAINING COLLABORATIVE FILTERING RECOMMENDATIONS", IN: CSCW 2000, ACM 2000, PP. 241–250. 6. SAPIENZA, A AND FALCONE, F, AND CASTELFRANCHI, C, "THE RELEVANCE OF CATEGORIES FOR TRUSTING INFORMATION SOURCES", ACM TRANS. (2015), 	275-279

7. QU, H, BENTAHAH. J AND DRAWEL. N, AND, SHAKSHUKI. E, "SPECIFICATION AND AUTOMATIC VERIFICATION OF TRUST-BASED MULTI-AGENT SYSTEMS", FUTURE GENERATION COMPUTER SYSTEMS (2018).
8. BELL. R, VOLINSKY, KOREN. Y, "MATRIX FACTORIZATION TECHNIQUES FOR RECOMMENDER SYSTEMS", COMPUTER, VOL. 42, NO. 8, PP. 3037, AUG. 2009.
9. WEIKUM. G AND KROETSCH. M, "SPECIAL ISSUE ON KNOWLEDGE GRAPHS", J. WEB SEMANTICS, OCT. 2, 2018.
10. HEATH. T, AND BERNERS-LEE. T, BIZER. C, "LINKED DATA THE STORY SO FAR", INT. J. SEMANTIC WEB INF. 2009.
11. LARSON. M, AND SHI. Y, HANJALIC. A, "MINING CONTEXTUAL MOVIE SIMILARITY WITH MATRIX FACTORIZATION FOR CONTEXT-AWARE RECOMMENDATION", ACM 2013.
12. H. Wang, F. Zhang, J. Wang, M. Zhao, W. Li, X. Xie, and M. Guo, "RippleNet: Propagating user preferences on the knowledge graph for recommender systems," in Proc. 27th ACM Int. Conf. Inf. Knowl. Manage. (CIKM), 2018, pp. 417426.
13. AZIZI. V, CHEN. X, AND ZHANG. Y, "LEARNING HETEROGENEOUS KNOWLEDGE BASE EMBEDDING'S FOR EXPLAINABLE RECOMMENDATION", ALGORITHMS, 2018.
14. NOIA. T, SCHIAVONE. A, BELLINI. V, AND SCIASCIO. E, "KNOWLEDGE-AWARE AUTO ENCODERS FOR EXPLAINABLE RECOMMENDER SYSTEMS", (DLRS), 2018,
15. LIU. N, WANG. S, YANG. F, AND HU. X, "TOWARDS INTERPRETATION OF RECOMMENDER SYSTEMS WITH SORTED EXPLANATION PATHS", IEEE NOV. 2018.
16. ABDOLLAHI. B AND NASRAOUI. O, "EXPLAINABLE MATRIX FACTORIZATION FOR COLLABORATIVE FILTERING," IN PROC. 25TH INT. CONF. COMPANION 2016,
17. ABDOLLAHI. B, "ACCURATE AND JUSTIFIABLE: NEW ALGORITHMS FOR EXPLAINABLE RECOMMENDATIONS", PH.D. DISSERTATION, UNIV. LOUISVILLE, LOUISVILLE, KENTUCKY, 2017.
18. LEHMANN. J, AUER. S, KOBILAROV. G, BIZER. C, BECKER. C, CYGANIAK. R, AND HELLMANN. S, "DBPEDIA-A CRYSTALLIZATION POINT FOR THE WEB OF DATA", J. WEB SEMANTICS, 2009.
19. PASSANT. A AND DECKER. S, "HEY! HO! LET'S GO! EXPLANATORY MUSIC RECOMMENDATIONS WITH DBREC", SPRINGER, 2010.
20. PASSANT. A, "MEASURING SEMANTIC DISTANCE ON LINKING DATA AND USING IT FOR RESOURCES RECOMMENDATIONS", IN PROC. AAAI SPRING SYMP., 2010, P. 123.
21. HAQ. R, "HYBRID RECOMMENDER SYSTEM TOWARDS USER SATISFACTION", M.S. THESIS, UNIV. OTTAWA, OTTAWA, ON, CANADA, 2013.
22. SEN. S, AND VI. J, RIEDL. J, "TAGSPLANATIONS: EXPLAINING RECOMMENDATIONS USING TAGS", IN CONF. INTELL. USER INTERFACES (IUI), 2009.
23. NICKEL. M, MURPHY, GABRILOVICH. E, TRESP. V, "A REVIEW OF RELATIONAL MACHINE LEARNING FOR KNOWLEDGE GRAPHS", IEEE, JAN. 2016.
24. BIZER. C, CYGANIAK. R, KOBILAROV. G, AUER. S, LEHMANN. J, AND IVES. Z, "DBPEDIA: A NUCLEUS FOR A WEB OF OPEN DATA", IN SPRINGER, 2007
25. VRANDEJE. D, "WIKIDATA: A NEW PLATFORM FOR COLLABORATIVE DATA COLLECTION", IN PROC. 21ST INT. CONF. COMPANION WORLD WIDE WEB (WWW), 2012.
26. A. CARLSON, SETTLES. B, BETTERIDGE. J, KISIEL. B, HRUSCHKA. E, AND MITCHELL. T, "TOWARD AN ARCHITECTURE FOR NEVER-ENDING LANGUAGE LEARNING," IN PROC. 24TH AAAI CONF. ARTIF. INTELL. (AAAI), 2010
27. KASNECI. G, AND SUCHANEK, G. WEIKUM, "YAGO: A CORE OF SEMANTIC KNOWLEDGE", IN PROC. 16TH INT. CONF. WORLD WIDE WEB (WWW), 2007
28. EVANS. C, BOLLACKER. K, STURGE. T, AND PARITOSH. P, TAYLOR. P, "FREEBASE: A COLLABORATIVELY CREATED GRAPH DATABASE FOR STRUCTURING HUMAN KNOWLEDGE", IN PROC. ACM, 2008
29. A. SINGHAL. (2012). INTRODUCING THE KNOWLEDGE GRAPH: THINGS, NOT STRINGS.
30. NASRAOUI. O, ABDOLLAHI. B, ALSHAMMARI. M, "A SEMANTICALLY AWARE EXPLAINABLE RECOMMENDER SYSTEM USING ASYMMETRIC MATRIX FACTORIZATION", IN PROC. 10TH INT. JOINT CONF. KNOWL. DISCOVERY 2018.
31. PASSANT. A, "DBREC: MUSIC RECOMMENDATIONS USING DBPEDIA", IN CONF., SHANGHAI, CHINA. NEW YORK, NY, USA: SPRINGER-VERLAG, 2010.

Authors: Divyanshu Tyagi, Drishti Sharma, Rishabh Singh, Kaushal Kishor

Paper Title: Real Time 'Driver Drowsiness' & Monitoring & Detection Techniques

Abstract: World has seen many of the accidents occur due to driver's fatigue and a small scale distraction factor while driving the vehicle. Number of accidents has been increasing day-by-day during driving due to driver drowsiness playing as an implicating factor in many accidents. Goal of this thesis is to reduce these accidents and maintenance of transportation safety. The system are design such that it will precisely scrutiny the eye blink. Dissimilarity covering the eye will differ as per eye blink. If out-turn is high the eye is closed or else out-turn is low. It shows close or open area of the eye.

Keywords: Driver drowsiness detection, transportation safety, driver's fatigue, eye blink

References:

1. National Safety Council road safety, "Drivers are falling sleepy behind the wheel fatigue driving precaution week is Nov.1- 8, 2020".
2. Arun Sahayadhas,*Kenneth Sundaraj, and Murugappan Murugappan Sensors (Basel), 2012 Dec; 12 (12): 16937-16953. PMID: PMC3571819,"Detecting driver drowsiness based on sensors" Published online review paper in 2012 Dec 7.
3. Allan Robinson, "How to calculate Euclidean distance" Sciencing.com in 6 April 2020.
4. Priyanka Sharma, "International Journal of computer Science & Engineering Technology (IJCSSET) Review on Driver fatigueness Detection System" Vol. 5 No.07 Jul 2014.
5. Koustubh Sinhal, "Interaction for a better Haar also LBP cascade based eye detector using OpenCV" in 2017 Jan 23.
6. Adam Harvey, "OpenCV Cascade Classifier, Detection of faces or eyes in OpenCV" generated on Mon Apr 6 2020.
7. Zafersavas, "TraceEye: Real-Time Tracking Of Human Eyes Using a Webcam" in 2008 12 Jun.
8. Adrian Rosebrock, "Drowsiness detection with OpenCV" on May 8, 2017.
9. Alias Squalli Houssaini, My Abdelouahed Sabri, +1 author A.Aarab, "Real-Time Driver's Hyperalert observation using Facial Landmark" published in International Conference on Wireless Technologies, Embedded and Intelligent System (WITS) in 2019.
10. Rahman, A., Sirshar, M., & Khan, A. (2015). Live fatigueness detection using eye blink monitoring (NSEC).
11. John R.; Bennett, Forrest H; Andre, David; Keane, Martin A. (1996). Automated Structure for Both the Topology and area of Analog Electrical Circuits Using Genetic Programming. Artificial Electrical Circuits Via Genetic Programming. Expert system in Design'96. Springer, Dordrecht. pp. 151-170.
12. Alexander Mordvintsev & Abid k., "Canny Edge Detection" in 2013.

280-284

50.

51. Authors: Venkata Reddy. S, V. Sai Rakesh, M. Varun, S. Prakash, D. Naveen

Paper Title: Demand Forecasting-using Simulation for SCM Environment

Abstract: Supply chain management (SCM) is an emerging field that has commanded attention and support from the industrial community. Forecasting activities are widely performed in different categories of supply chains for predicting important supply chain management (SCM) comparisons such as demand volume in order management, product quality in manufacturing processes, capacity usage in production management, traffic

285-289

costs in transportation management and so on. Demand forecast taking inventory into consideration is an critical issue in SCM. The demand is forecasted using SIMULATION and compared with various forecasting models. The paper describes an application of discrete event simulation for forecasting the demand for next few periods, where the previous demand pattern show a purely random variation and increasing trend with random variation. The main objective of the study was to determine the demand of the product for future periods based on past data using simulation technique and compare its efficiency with conventional techniques for the SCM environment. By simulation we can forecast the demand either with the same accuracy or with more accuracy by increasing number of iterations. Mean absolute deviation (MAD) is used as measure of accuracy of various techniques. In this paper, this technique is verified by considering a case study which deals with the demand of tyres over past three years(2002,2003,2004) and forecasting the demand in the present year(2005) and successful results are obtained.

Keywords: Supply chain management (SCM), Forecasting, Simulation, Random number, Mean Absolute Deviation.

References:

1. Bartezzaghi, Emilio & Verganti, Roberto & Zotteri, Giulio. (1999). A simulation framework for forecasting uncertain lumpy demand - Issues and analysis. *International Journal of Production Economics*. 59. 10.1016/S0925-5273(98)00012-7.
2. Fildes, Robert. (2006). The forecasting journals and their contribution to forecasting research: Citation analysis and expert opinion. *International Journal of Forecasting*. 22. 415-432. 10.1016/j.ijforecast.2006.03.002.
3. McNally, M. G. (1996). An activity-based microsimulation model for travel demand forecasting.
4. Barlas, Yaman, and Baris Gunduz. "Demand forecasting and sharing strategies to reduce fluctuations and the bullwhip effect in supply chains." *Journal of the Operational Research Society* 62.3 (2011): 458-473.
5. Jia, N. X., et al. "A flexible long-term load forecasting approach based on new dynamic simulation theory—GSIM." *International journal of electrical power & energy systems* 23.7 (2001): 549-556.
6. Armenzoni, Mattia, et al. "An integrated approach for demand forecasting and inventory management optimisation of spare parts." *International Journal of Simulation and Process Modelling* 10.3 (2015): 233-240.
7. Petrovic, Dobrila. "Simulation of supply chain behaviour and performance in an uncertain environment." *International Journal of Production Economics* 71.1-3 (2001): 429-438.
8. Chen, Ye, et al. "Simulation-optimization approach to clinical trial supply chain management with demand scenario forecast." *Computers & Chemical Engineering* 40 (2012): 82-96.
9. Vieira, Guilherme Ernani. "Ideas for modeling and simulation of supply chains with Arena." *Proceedings of the 2004 Winter Simulation Conference, 2004.. Vol. 2. IEEE, 2004.*

52.

Authors: Camellia Ray

Paper Title: Diagnosis of Autism using Machine Learning as a Healthcare Technology

Abstract: Autism is one of the inborn disease, researchers are presently focusing on. The autistic child faces inflexibility in language, thinking and behavior together with the difficulties in understanding emotional states of others. There are lot of interventions going on to make them understand the feelings of others and vice-versa. Now a day, ASD became one of the quick spreading diseases all over the world. Therefore there is a huge need to provide a time-consuming and easy accessible diagnostic tool to detect autism at an early stage to help the clinicians in providing prior medications. Though there is no proper curability of autism, still easy detection helps to provide better therapy session and supports the autistic child to lead a comfort independent life. The thesis deals with the building up of a model where the parents and relatives of a suspected autistic child can easily detect if they are suffering from autism by providing their answers of some particular questions related to the characteristics of autism. In order to build that model, the data were collected manually from different autism therapy centers in India and those raw data are then classified by using three different classifiers namely Logistic Regression, Support Vector Machine and Random Forest with Python as a programming tool to find out the one with higher accuracy by various analyses after pre-processing. The Random Forest classifier with the highest accuracy is utilized in framing the question based model for the early discovery of autism which can be operated as a primary diagnostic model to assist medical professionals technologically.

290-298

Keywords: Autism, Diagnosis, Random Forest, Logistic Regression, Support Vector Machine, 10-fold cross validation.

References:

1. Li Y, Adel Said Elmaghraby A "A Framework for using Games for Behavioral Analysis of Autistic Children", *Computer Games: AI, Animation, Mobile, Multimedia, Educational and Serious Games (CGAMES)*, IEEE 20-23, 2014.
2. Bretagne Abirached, Yan Zyang, J.K. Agarwal, Birgi Tamersoy et al. "Improving Communication Skills of Children with ASDs through interaction with Visual Characters", 1st International Conference on Serious Games and Applications for Health (SeGAH), IEEE 16-18, 2011.
3. Nazih Heni, Habib Hamam "Design of Emotional Educational System Mobile Games for Autistic Children", 2nd International Conference on Advanced Technologies for Signal and Image Processing, IEEE 21-23, 2016.
4. Agnes Lacroix, Michele Guidette, Bernadette Roge, Judy S. Reilly "Facial emotion recognition in 4- to 8-year-olds with autism spectrum disorder: A developmental trajectory approach", *Research in Autism Spectrum Disorders*, Volume 8 Issue 9, September 2014.
5. Chien-Hsu Chen, I-Jui Lee, Ling-Yi Lin "Augmented reality-based self-facial modeling to promote the emotional expression and social skills of adolescents with autism spectrum disorders", *Research in Developmental Disabilities*, Volume 36 Issue 8, January 2014.
6. Maha Jazouli, Aicha Majda, Arsalane Zarghili "A SP Recognizer for Automatic Facial Emotion Recognition using Kinect Sensor", *Intelligent Systems and Computer Vision (ISCV)*, IEEE 17-19, 2017.

7. Fadi Thabtah, Firuz Kamalov, Khairan Rajab "A new computational intelligence approach to detect autistic features for autism screening", International Journal of Medical Informatics, Volume 117, September 2018.
8. Patricia Howlin "Autism Spectrum Disorders", Psychiatry, Volume 5, Issue 9, September 2006.
9. Osman Altay, Mustafa Ulas "Prediction of the Autism Spectrum Disorder Diagnosis with Linear Discriminant Analysis Classifier and K-Nearest Neighbor in Children", 6th International Symposium on Digital Forensic and Security (ISDFS), 2018.
10. Mark Hall, Eibe Frank, Geoffrey Holmes et al. "The WEKA data mining software: an update", ACM SIGKDD Explorations Newsletter. ACM Digital Library, Volume 11 Issue 1, November 2009.
11. Saurabh Mukherjee, Dr. Neelam Sharma "Intrusion Detection using Naive Bayes Classifier with Feature Reduction", Procedia Technology, Volume 4, September 2012
12. Rita Barone, Salvatore Alaimo, Marianna Messina et al. "A Subset of Patients with Autism Spectrum Disorders Show a Distinctive Metabolic Profile by Dried Blood Spot Analyses", Frontiers in Psychiatry, Volume 9, December 2018.
13. Radha V "Neural Network Based Face Recognition Using RBFN Classifier", Proceedings of the World Congress on Engineering and Computer Science, Volume 1, October 2011.
14. Dayana C, Tejera Hernandez "An Experimental Study of K* Algorithm", Information Engineering and Electronic Business (IJIEEB), Volume 2, March 2015.
15. John G. Cleary, Leonard E. Trigg "K*: An Instance-based Learner Using an Entropic Distance Measure", 12th International Conference on Machine Learning, July 1995.
16. Meng Li, Qing Song, Qinjun Zhao "A Fuzzy Adaptive Rapid-Exploring Random Tree Algorithm", 3rd International Conference on Materials Science and Mechanical Engineering (ICMSME), DEStech 167-171, 2016.
17. Mariana Belgiu, Lucian Dragut "Random forest in remote sensing: A review of applications and future directions", Journal of Photogrammetry and Remote Sensing, Volume 114, April 2016.
18. E Feczko, NM Balba, O Miranda-Dominguez et al. "Subtyping cognitive profiles in Autism Spectrum Disorder using a Functional Random Forest algorithm", NeuroImage, Volume 172, May 2018.
19. Halim Abbas, Ford Garberson, Eric Glover, Dennis P Wall "Machine Learning approach for early detection of autism by combining questionnaire and home video screening", Scholarly Journal of Informatics in Health and Biomedicine, Volume 25 Issue 8, August 2018
20. Alokandanda Rudra, Saoni Banerjee, Nidhi Singhal et al. "Translation and Usability of Autism Screening and Diagnostic Tools for Autism spectrum Conditions in India", Autism Research, Volume 7, October 2014.
21. Alokandanda Rudra, Mathew K Belmonte, Parmeet Kaur Soni et al. "Prevalence of Autism Spectrum Disorder and Autistic Symptoms in a School-Based Cohort of Children in Kolkata, India", Autism Research, Volume 10 Issue 10, December 2017.
22. Qandeel Tariq, Jena Daniels, Jessey Nicole Schwartz et al. "Mobile detection of autism through machine learning on home video: A development and prospective validation study", PLOS, Volume 15 Issue 11, November 2018.
23. Kayleigh K. Hyde, Marlena N. Novack, Nicholas LaHaye et al. "Applications of Supervised Machine Learning in Autism Spectrum Disorder Research: a Review", Review Journal of Autism and Developmental Disorders, Volume 6 Issue 2, February 2018.
24. Fadi Thabtah "Autism spectrum disorder screening: Machine learning adaptation and dsm-5 fulfillment", Proceedings of the 1st International Conference on Medical and Health Informatics, Volume 5, May 2017.
25. Lorna Goddard, Lucy A Henry Hill et al. "Experiences of diagnosing autism spectrum disorders: A survey of professionals in the United Kingdom", National Autistic Society, Volume 20 Issue 7, December 2016.
26. Christensen DL, Braun KVN, Baio J et al. Prevalence and Characteristics of Autism Spectrum Disorder Among Children Aged 8 Years — Autism and Developmental Disabilities. MMWR Surveillance Summaries. 2018; 65 (13): 1-23.
27. Fadi Thabtah "Machine learning in autistic spectrum disorder behavioral research: A review and ways forward. Informatics for Health & Social Care". Volume 44 Issue 3, September 2017.
28. JA Kosmicki, V Sochat, M Duda, DP Wall "Searching for a minimal set of behaviors for autism detection through feature selection-based machine learning", Translational Psychiatry, Volume 5 Issue 2, February 2015.
29. Peter C. Austin, Juan Merlo "Intermediate and advanced topics in multilevel logistic regression analysis", Statistics in Medicine, Volume 36, May 2017.
30. Alessandra Retico, Iaria Gori, Alessia Giuliano, Filippo Muratori, Sara Calderoni "One-Class Support Vector Machines Identify the Language and Default Mode Regions As Common Patterns of Structural Alterations in Young Children with Autism Spectrum Disorders", Child and Adolescent Psychiatry, Volume 10, June 2016.

53.	Authors:	Rishabh Chakraborty, Rohit Agarwal, Srishti Mallick, K. Saravanan	
	Paper Title:	Diverse Resource Allocation Techniques in D2D Networks	
	Abstract:	D2D communication is going to be the upcoming technology which is going to change the era of wireless networks due to its flexibility. Due to the limited availability of Spectral resources, the co-channel interference is increasing. Co- channel interference occurs when number of User Equipment (UEs) share the same frequency block or commonly known as Resource Block (RB). Many researchers have ideated different Resource Allocation (RA) algorithms using modern optimisation methods like Fuzzy Logic, Game theory, Graph colouring and clustering. RA helps to provide proper channel to UEs and thus ensures proper utilisation of spectrum which is limited. With proper RA, the overall interferences can be mitigated easily and therefore it enhances the parameters such as QoS (Quality of Service), SNR, Throughput, power consumption, etc which are used to check the quality of the wireless network. In this paper review of these various RA methods, literature and deep analysis for clustering algorithm is carried out for different values of RBs and comparison Data Rates for various values of Bandwidth. A modified Spectral clustering method is propounded which will handle the number of clusters formation on the basis of requirements. The proposed RA technique is going to deal with the interferences step by step using modified Greedy algorithm and minimise the interference value until it can't be further minimised. Data Rate is calculated using Shannon's Theorem from the SINR values obtained.	299-304
	Keywords:	Clustering, Co-channel interference, D2D, Data Rate, RA, SNR and spectrum.	
	References:	<ol style="list-style-type: none"> 1. L. Zhuoming, C. Xing, Z. Yu, W. Peng, Q. Wei and L. Ningqing, "Fuzzy mathematics and game theory based D2D multicast network construction," in Journal of Systems Engineering and Electronics, vol. 30, no. 1, pp. 13-21, Feb. 2019, doi: 10.21629/JSEE.2019.01.02. 2. L. Zhao, H. Wang and X. Zhong, "Interference Graph Based Channel Assignment Algorithm for D2D Cellular Networks," in IEEE Access, vol. 6, pp. 3270-3279, 2018, doi: 10.1109/ACCESS.2018.2789423 	

		<ol style="list-style-type: none"> 3. Huang, Xu&Zeng, Mengjia& Fan, Jing & Fan, Xiangxiang& Tang, Xuefeng.(2018). A Full Duplex D2D Clustering Resource Allocation Scheme Based on a K -Means Algorithm.Wireless Communications and Mobile Computing. 2018. 1-8. 10.1155/2018/1843083 4. Kasi, S.K., Naqvi, I.H., Kasi, M.K. et al. Interference management in dense inband D2Dnetwork using spectral clustering & dynamic resource allocation.Wireless Netw25, 4431-4441 (2019). https://doi.org/10.1007/s11276-019-02107-2 5. Noura, M., &Nordin, R. (2016). A survey on interference management for device-to-device (D2D) communication and its challenges in 5G networks. Journal of Network and Computer Applications, 71, 130–150. 6. Celik, A.; Radaydeh, R.M.; Al-Qahtani, F.S.; Alouini, M.-S.: Resource allocation and interference management for D2D-enabled DL/UL decoupled Het-Nets. IEEE Access 5, 22735–22749 (2017) 7. Abbasi, A.A.; Younis, M.: A survey on clustering algorithms for wireless sensor networks. Comput. Commun. 30, 2826–2841 (2007). 8. J. Hao, H. Zhang, L. Song and Z. Han, "Graph-based resource allocation for device-to-device communications aided cellular network," 2014 IEEE/CIC International Conference on Communications in China (ICCC), Shanghai, 2014, pp. 256-260. 9. A. Al-Rimawi and D. Dardari, "Modeling non-uniform D2D distributions in downlink cellular networks," 2015 European Conference on Networks and Communications (EuCNC), Paris, 2015, pp. 259-264. 10. Chun, Y. J., Hasna, M. O., & Ghrayeb, A. (2015). Modeling heterogeneous cellular networks interference using Poisson cluster processes. IEEE Journal on Selected Areas in Communications, 33(10), 2182–2195. 11. Kannan, R., Vempala, S., &Vetta, A. (2004). On clusterings: Good, bad and spectral. Journal of the ACM (JACM), 51(3), 497–515. 12. Velmurugan. T, Santhanam. T: Computational Complexity between K-Means and K-Medoids Clustering Algorithms for Normal and Uniform Distributions of Data Points. Journal of Computer Science 6(3), 363–368 (2010). 13. W. Gao, H. Yi, Y. Hu, et al. "Resource Allocation Algorithm Based on SNR Equalization in D2D Communication", Computer Engineering, vol. 38, no. 10, pp. 5-8, (2012). 14. Yu Tao, Jun Sun and Shixiang Shao, "Radio resource allocation based on greedy algorithm and successive interference cancellation in Device-to-Device (D2D) communication," IET International Conference on Information and Communications Technologies (IETICT 2013), Beijing, China, 2013, pp. 452-458. 	
	Authors:	Suneetha Kuna, K Nandini, N V Narendra Reddy, Kadapa Harinadha Reddy	
	Paper Title:	Simulation and Analysis of Fault Characteristics of Distributed Solar Generation	
54.	Abstract:	Inverter power supply sources (DERs) are characterized by low current loss and zero negative and null series currents. Comprehension of the fault features of DER is important for fault analysis and safe relay setup. While DER modelling work has been abundant, there have been few research studies in DER fault behaviours. This paper looks at past Dominion Energy fault events. Fault scale, angle, and sequence components are evaluated to illustrate the possible difference between real DER response and previous understandings.	305-310
	Keywords:	Distribution Energy Resources (DER's), sequence components, electrical power system, protection systems, Renewable energy sources.	
	References:	<ol style="list-style-type: none"> 1. IEEE PES Industry Technical Support Task Force, "Impact of Inverter Based Generation on Bulk Power System Dynamics and Short-Circuit Performance," IEEE, July 2018. 2. IEEE PES Industry Technical Support Task Force, "Impact of IEEE 1547 Standard on Smart Inverters" IEEE, 2018. 3. H. Hooshyar and M. E. Baran, "Fault Analysis on Distribution Feeders With High Penetration of PV Systems", IEEE Transactions on Power Systems, vol. 28, no. 3, pp. 2890-2896, 2013. 4. R. Teodorescu, M. Liserre and P. Rodriguez, in Grid Converters for Photovoltaic and Wind Power Systems, John Wiley & Sons Ltd , 2010. 5. IEEE Standard Association, "IEEE Standard for Interconnection and Interoperability of Distributed Energy Resources with Associated Electric Power Systems Interfaces," IEEE, New York, NY, USA, 2018. 	
55.	Authors:	K.kannan, P. Surya kumar, V.praveen kumar, V.purushothaman, D.ramanand	
	Paper Title:	Vehicle to Vehicle Communication using Assisted Global Positioning System in Vehicular Ad Hoc Network	
	Abstract:	Vehicular Ad Hoc Network (VANET) is a type of Mobile Ad-Hoc Network or MANET which gives correspondence among vehicles and among vehicles and street side base stations. A vehicle in VANET is viewed as a savvy portable hub fit for speaking with its neighbors and different vehicles in the system. VANET is unique in relation to MANET because of high portability of hubs and the huge size of systems. Secure transmission and protection of data are the important constraint for structuring a VANET. Since there are many proposed work for improving protections in VANET, however secure transmission despite everything stays a sensitive research field. The primary destination of our work is to enhance the security concerns in vehicular networks. The fundamental endeavors were centered on the potential applications, potential assaults, secure prerequisites and the writing perusal. The long haul objective of this venture is to concoct a altogether new arrangement that can be executed in structuring a vehicular network.	311-315
	Keywords:	VANET, MANET, IOT, QOS, GPS and Secure Transmission	
	References:	<ol style="list-style-type: none"> 1. Ahmed Yasser, M. Zorkany and Neamat Abdel Kader, "VANET routing protocol for V2V implementation: A suitable solution for developing countries", Cogent Engineering, Volume 4, Issue 1, 2017, pp.1-26. 2. Balapgol, S., & Deshmukh, P. K., "Broadcast protocol for V2V and V2RSU in VANET", International Journal of Advanced Research in Computer and Communication Engineering, 4(7), 2015, pp.38-43. 3. Da Cunha, F. D., Boukerche, A., Villas, L., Viana, A. C., and Loureiro A., "Data communication in VANETs: A survey, challenges and applications", 2015, pp.1-25. 4. Khatkar, A., & Singh, Y., "Performance evaluation of hybrid routing protocols in mobile ad hoc networks", Advanced Computing & Communication Technologies (ACCT), IEEE Second International Conference, 2012, pp. 542–545 5. Najafzadeh, S., Ithnin, N. B. and Abd Razak, S., "Broadcasting in connected and fragmented vehicular Ad Hoc networks", International Journal of Vehicular Technology, Volume 15, 2014, pp.1-16. 	

	<ol style="list-style-type: none"> 6. Patel, D., Faisal, M., Batavia, P., Makhija, S., & Mani, "Overview of routing protocols in VANET", International Journal of Computer Applications, 136, 2016,pp.26-38 7. Vegni, A. M., & Little, T. D, "Message propagation model for hybrid vehicular communication protocols", IEEE Conference, 2010,pp.1-18. 8. Hannes Hartenstein and Kenneth Laberteaux, "VANET: Vehicular Applications and Inter-networking Technologies", 2010 9. Haojin Zhu, Xiaodong Lin, Rongxing Lu, Pin-Han Ho and Xuemin Shen. "AEMA: An Aggregated Emergency Message Authentication Scheme for Enhancing the Security of Vehicular Ad Hoc Networks. IEEE Communications Society proceedings",2008, pp.1436-1440 10. Kan Zheng,Qiang Zheng ,Periklis Chatzimisios ,Wei Xiang and Yiqing Zhou, "Heterogeneous Vehicular Networking: A Survey on Architecture, Challenges, and Solutions", IEEE Communications Surveys & Tutorials, Volume 17, issue 4, 2015,pp.2377-2396. 11. Maen M. Artimy, William Robertson, and William J. Phillips, "Connectivity in Inter-Vehicle Ad Hoc Networks", Canadian Conference on Electrical and Computer Engineering, 2004,pp.293-298. 12. Jijun Yin, Tamer ElBatt Gavin and Yeung Bo Ryu, " Performance Valuation of Safety Applications over DSRC Vehicular Ad Hoc Networks", Proceedings of the First International Workshop on Vehicular Ad Hoc Networks, 1, 2004 					
56.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Authors:</td> <td>Mallikarjun C Sarsamba, Raju Yanamshetti</td> </tr> <tr> <td>Paper Title:</td> <td>Frequency Reconfigurable Compact Antenna for Multiband Wireless Communication Application</td> </tr> </table> <p>Abstract: This pioneering work suggests a reconfigurable multiband frequency antenna for applications in wireless networking The miniaturization and multi-band function of the mounted antenna is done by inserting a rectangular hole, and the reconfiguration of the frequency is achieved by utilizing two PIN diode switches. The ON and OFF state of the PIN diode determines the surface current distribution of the radiating patch resulting in the multiband resonance and reconfiguration of the proposed device. Application and analysis dependent on parameter of the antenna such as lack of return loss, VSWR, gain, and radiation pattern. The developed antenna is used for the intended application of wireless communication. Simulation is performed using Ansys HFSS.</p> <p>Keywords: MSPA, slot, PIN diodes, Wireless communication, and Reconfigurable antenna.</p> <p>References:</p> <ol style="list-style-type: none"> 1. C.A.Balanis, Antenna theory, design. Hand book , NJ: Wiley Interscience, 2005. 2. Bahl I. J. and Bhartia P, Dedham, MA. "Microstrip Antennas", Artech House, 1980 3. Shynu S. V, Gijo Augustin,C.K. Aanandan, P. Mohanan, and K.Vasudevan, "A Reconfigurable Dual frequency Slot-Loaded Microstrip Antenna controlled By PIN diodes", Microwave and Optical Technology LEETTERS/Vol.44, No 4, February 20 2005. 4. Tanweer Ali and Rajashekhar C. Biradar, "A Compact Hexagonal Slot Dual Band Frequency Reconfigurable Antenna for WLAN Application", Microwave and Optical Technology LEETTERS/Vol.44, No 4, February 20 2017. 5. Nibash Kumar Sahu and Ashish Kumar Sharma, "An Investigation of Pattern and Frequency Reconfigurable Microstrip Slot Antenna Using PIN Diodes", 2017 Progress In Electromagnetics Research Symposium Spring (PIERS), St Petersburg, Russia, 22–25 May 6. Sajid M. Asif, Adnan Iftikhar, Saeed M. Khan, Muhammad Usman, "An E-Shaped Microstrip patch Antenna for Reconfigurable Dual-Band operation", Microwave and Optical Technology LEETTERS/Vol.44, No 4, February 20 2016. 7. Harish Rajagopalan, Joshua Kovitz, and Yahya Rahmat-Samii, "Frequency Reconfigurable Wideband E-shaped PatchAntenna: Design, Optimization, and Measurements", 978-1-4673- 0462-7/12/\$31.00 ©2012 IEEE 8. K Satish Reddy, K Praveen Kumar, P Bhaskara Reddy, Harswaroop Vaish, "Novel Frequency Reconfigurable Slotted Patch Antenna: Design and Analysis", Procedia Materials Science 10 (2015) 660 – 665 9. Shajat Hassan, Zeba Eqbal, Ruchi Varma, Jayanta Ghosh, "Frequency Reconfigurable Square Slot Antenna for Wireless Applications", Proc. of the 2017 IEEE Region 10 Conference (TENCON), Malaysia, November 5-8, 2017. 10. Anamiya Bhattacharya and Rajeev Jyoti, "Frequency Reconfigurable Patch Antenna Using PIN Diode at X-Band", 978-1-4799-8349-0/15/\$31.00 ©2015 IEEE. 11. Gaurav Upadhyay, NandKishore, PrashantRanjan, V.S.Tripathi, Shivesh Tripathi, "Frequency Reconfigurable Multiband Patch Antenna Using PIN-Diode for ITS Application" International Journal of Electronics and Communication EngineeringVol: 12, No: 10, 2018 12. Liping Han, Caixia Wang, Xinwei Chen, and Wenmei Zhang, "Compact Frequency Reconfigurable Slot Antenna for Wireless Applications", 1536-1225 (c) 2015 IEEE. 13. Hui Li, Jiang Xiong, Yufeng Yu, and Sailing He. "A Simple Compact Reconfigurable Slot Antenna with a Very Wide Tuning Range", IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, VOL. 58, NO. 11, NOVEMBER 2010 14. Norsuzlin Mohd Sahar1, Muhammad Tariqul Islam1, Norbahiah Misran1, "A Reconfigurable Multiband Antenna for RFID and GPS Applications", ELEKTRONIKAIR ELEKTROTEKNIKA, ISSN 1392-1215, VOL. 21, NO. 6, 2015. 15. B.G.DINESHa, S.L.MALLIKARJUN, G.M. PUSHPANJALI, AND P. M. HADALGI, "DIAGONAL SLOT-LOADED RECTANGULAR MICROSTRIP PATCH ANTENNA", Proceeding of NCRIET-2015 & Indian J.Sci.Res. 12(1):214-216, 2015. 	Authors:	Mallikarjun C Sarsamba, Raju Yanamshetti	Paper Title:	Frequency Reconfigurable Compact Antenna for Multiband Wireless Communication Application	316-324
Authors:	Mallikarjun C Sarsamba, Raju Yanamshetti					
Paper Title:	Frequency Reconfigurable Compact Antenna for Multiband Wireless Communication Application					
57.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Authors:</td> <td>L.Malathi, A.Bharathi, A.N.Jayanthi</td> </tr> <tr> <td>Paper Title:</td> <td>FPGA Implementation in Robust FFT Architecture for Signal Processing Applications</td> </tr> </table> <p>Abstract: FFT architecture is the common and very efficient design in modern signal processing applications. Though so much of architectures are executed in now-a-days applications, This paper will give different approach of FFT design. In order to reduce the computation time, FFT structure is modified in the arrangement. This analyzed approach somewhat satisfies the low power, high performance and to useful in image, signal and wireless applications.</p> <p>Keywords: FFT, Scaling Factor, Multiplier, CSA, CLA, BM, AM</p> <p>References:</p> <ol style="list-style-type: none"> 1. C. Wang, Y. Yan, and X. Fu, "A high-throughput low-complexity radix-24-2²-2³ FFT/IFFT processor with parallel and normal input/output order for IEEE 802.11ad Systems," IEEE Trans. on Very Large Scale Integration (VLSI) Systems, Vol. 23, No. 11, 	Authors:	L.Malathi, A.Bharathi, A.N.Jayanthi	Paper Title:	FPGA Implementation in Robust FFT Architecture for Signal Processing Applications	325-330
Authors:	L.Malathi, A.Bharathi, A.N.Jayanthi					
Paper Title:	FPGA Implementation in Robust FFT Architecture for Signal Processing Applications					

	<p>pp. 2728-2732, Nov. 2015.</p> <ol style="list-style-type: none"> 2. M. Garrido, J. Grajal, M. Sanchez, and O.Gustafsson, "Pipelined radix-2k feed forward FFT architectures," IEEE Trans. on Very Large Scale Integration (VLSI) Systems, Vol. 21, No. 1, pp. 23-32, Jan. 2013. 3. T. Cho and H. Lee, "A high-speed low-complexity modified radix-25 FFT processor for high-rate WPAN applications," IEEE Trans. on Very Large Scale Integration (VLSI) Systems, Vol. 21, No. 1, pp. 187-191, Jan. 2013. 4. S. Huang and S. Chen, "A high-throughput radix-16 FFT processor with parallel and normal input/output ordering for IEEE 802.15.3c systems," IEEE Trans. on Circuits and System I, Reg. Papers, Vol. 59, No. 8, pp. 1752-1765, Aug. 2012. 5. Hanho Lee and Minhyeok Shin(2010) „A High - Speed Low Complexity Two - Parallel Radix - 2FFT/IFFT Processor for UWB applications" IEEE Asian Solid - State Circuits Conference 6. S. Tang, J. Tsai, and T. Chang, "A 2.4-GS/s FFT processor for OFDM based WPAN applications," IEEE Trans. on Circuits and Systems II: Express Briefs, Vol. 57, No. 6, pp. 451-455, Jun. 2010. 7. A. T. Erdogan ,M. Hasanand Wei Han T. Arslan(2008) „A novel ow power pipelined fft based on sub expression sharing for wireless lan applications" IEEE Transactions on Very Large Scale Integration (VLSI) System. 8. A. Amaricai, M. Vladutiu, and O. Boncalo, "Design issues and implementations for floating-point divide-add fused," IEEE Trans. Circuits Syst. II-Exp. Briefs, vol. 57, no. 4, pp. 295-299, Apr. 2010. 9. E. E. Swartzlander and H. H. M. Saleh, "FFT implementation with fused floating-point operations," IEEE Trans. Comput., vol. 61, no. 2, pp. 284-288, Feb. 2012. 10. J. J. F. Cavanagh, Digital Computer Arithmetic. New York: McGraw- Hill, 1984. 11. S. Nikolaidis, E. Karaolis, and E. D. Kyriakis-Bitzaros, "Estimation of signal transition activity in FIR filters implemented by a MAC architecture," IEEE Trans. Comput.-Aided Des. Integr. Circuits Syst., vol. 19, no. 1, pp. 164-169, Jan. 2000. 12. Y. Ouerhani, M. Jridi and A. Alfalou Area-delay efficient FFT Architectuer using parallel processing and new memory sharing technique, Journal of Circuits, Systems, and Computers 21 World Scientific Publishing Company.,2012 Vol-21. 13. Xiaoxiao Zhang, Student Member, IEEE, Farid Boussaid, Senior Member, IEEE, and Amine Bermak, Fellow, IEEE, "32 Bit X 32 Bit Multiprecision Razor-Based Dynamic Voltage Scaling Multiplier With Operands Scheduler", IEEE Transactions on Very Large Scale Integration (Vlsi) System , VOL. 22, NO. 4, APRIL 2014. 14. Kostas Tsoumanis, Student Member, IEEE, Sotiris Xydis, Constantinos Efstathiou, Nikos Moschopoulos, and Kiamal Pekmestzi, "An Optimized Modified Booth Recoder for Efficient Design of the Add - Multiply Operator", IEEE Transactions on Very Large Scale Integration (Vlsi) System, VOL. 61, NO. 4, APRIL 2014. 15. Shin-Kai Chen, Chih-Wei Liu, Member, IEEE, Tsung-Yi Wu, and An-Chi Tsai, "Design and Implementation of High-Speed and Energy-Efficient Variable-Latency Speculating Booth Multiplier (VLSBM)", IEEE Transactions on Very Large Scale Integration (VLSI) System, VOL.60, NO.10, OCTOBER 2013. 16. Mikhaïl Dorojevets, Member, IEEE, Artur K. Kasperek, Member, IEEE, Nobuyuki Yoshikawa, Member, IEEE, and Akira Fujimaki, Member, IEEE, IEEE Transactions on Very Large Scale Integration (VLSI) System, "20-GHz 8X8-Bit Parallel Carry-Save Pipelined RSFQ Multiplier", VOL.23, NO.3, JUNE 2013. 17. Reza Azarderakhsh, Student Member, IEEE, and Arash Reyhani-Masoleh, Member, IEEE, "Low-Complexity Multiplier Architectures for single and Hybird-Double Multiplications in Gaussian Normal Bases", IEEE Transactions on Very Large Scale Integration (VLSI) System, VOL.62, NO.4, APRIL 2013. 													
58.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Authors:</td> <td>M. C. Chinnaiah, M. Akhil, M. Aishwarya, J. Manisha, B. Sai Raga Sireesha.</td> </tr> <tr> <td>Paper Title:</td> <td>Autonomous Fire Detection Alarm System At Forest</td> </tr> <tr> <td colspan="2">Abstract: Fire mishaps are characterized as a bothersome occasion which radiates warmth, smoke or fire. Fire mishap is a significant type of mishap and can cause countless causalities due to the peril and hazard associated with protecting casualties out of the fire. While firefighting units participate in such circumstances there is a high chance to misfortune the life of fire personnel's. In regular day to day existence, it isn't possible to consistently depend on human watch for identifying and dousing fire at a fire mishap scene. In the event that a mechanized framework is made to watch the edge for fire mishaps, at that point we can have an early admonition framework. This will be compelling in a fire mishap in ventures and neighborhoods where the fire prospects are high. So as to accomplish this, we should think of a thought which can recognize a fire, find it and smother the fire preceding it represents a danger to anything around it. For dangerous circumstances, it is hopeful to send a firefighting robot that could rapidly and proficently discover the fire and smother it. Compelling observing, fast acknowledgment, and stifling of fire are issues to be managed right away. To lessen the danger of losing life in such circumstances, fire mishap control framework can be utilized. The programmed framework is intended to maintain a strategic distance from further spreading of the fire that could prompt conceivable human causalities or harm to property.</td> </tr> <tr> <td colspan="2">Keywords: Fire accidents, Warning system, Automatic system, Accident Control, Monitoring.</td> </tr> <tr> <td colspan="2">References:</td> </tr> <tr> <td colspan="2"> <ol style="list-style-type: none"> 1. Bhatti, S.; Xu, J.; Memon, M. Grouping and adaptation to internal failure for target following utilizing remote sensor systems. IET Wire. Sens. Syst. 2011, 1, 66-73. 2. Li, W.; Zhang, W. Sensor determination for improving exactness of target confinement in remote visual sensor systems. IET Wirel. Sens. Syst. 2012, 2, 293-301. 3. Pagano, S.; Peirani, S.; Valle, M. Indoor going and confinement calculation dependent on gotten signal quality marker utilizing measurement parameters for remote sensor systems. IET Wirel. Sens. Syst. 2015, 5, 243-249. 4. S. Majumder, S. O'Neil and R. Kennedy, "Shrewd device for fire clearing — An IoT based fire crisis checking and departure framework," 2017 IEEE MIT Undergrad Research Technology Conference (URTC), Cambridge, MA, 2017, pp. 1-4. 5. T. Sahithi, T. Pranathi and A. Pravin, "Programmed Fire Rescue System utilizing IoT," 2019 Universal Conference on Communication and Signal Processing (ICCSPP), Chennai, India, 2019, pp. 0526-0528. 6. S. K. Bhoi et al., "FireDS-IoT: A Fire Detection System for Smart Home Based on IoT Information Analytics," 2018 International Conference on Information Technology (ICIT), Bhubaneswar, India, 2018, pp. 161-165 7. Yueping, G. Fangcheng and Z. Yongxian, "Plan and Realization of Fire Alarm Framework Based on CAN Bus," 2007 eighth International Conference on Electronic Measurement furthermore, Instruments, Xi'an, 2007, pp. 1-832-1-836. </td> </tr> </table>	Authors:	M. C. Chinnaiah, M. Akhil, M. Aishwarya, J. Manisha, B. Sai Raga Sireesha.	Paper Title:	Autonomous Fire Detection Alarm System At Forest	Abstract: Fire mishaps are characterized as a bothersome occasion which radiates warmth, smoke or fire. Fire mishap is a significant type of mishap and can cause countless causalities due to the peril and hazard associated with protecting casualties out of the fire. While firefighting units participate in such circumstances there is a high chance to misfortune the life of fire personnel's. In regular day to day existence, it isn't possible to consistently depend on human watch for identifying and dousing fire at a fire mishap scene. In the event that a mechanized framework is made to watch the edge for fire mishaps, at that point we can have an early admonition framework. This will be compelling in a fire mishap in ventures and neighborhoods where the fire prospects are high. So as to accomplish this, we should think of a thought which can recognize a fire, find it and smother the fire preceding it represents a danger to anything around it. For dangerous circumstances, it is hopeful to send a firefighting robot that could rapidly and proficently discover the fire and smother it. Compelling observing, fast acknowledgment, and stifling of fire are issues to be managed right away. To lessen the danger of losing life in such circumstances, fire mishap control framework can be utilized. The programmed framework is intended to maintain a strategic distance from further spreading of the fire that could prompt conceivable human causalities or harm to property.		Keywords: Fire accidents, Warning system, Automatic system, Accident Control, Monitoring.		References:		<ol style="list-style-type: none"> 1. Bhatti, S.; Xu, J.; Memon, M. Grouping and adaptation to internal failure for target following utilizing remote sensor systems. IET Wire. Sens. Syst. 2011, 1, 66-73. 2. Li, W.; Zhang, W. Sensor determination for improving exactness of target confinement in remote visual sensor systems. IET Wirel. Sens. Syst. 2012, 2, 293-301. 3. Pagano, S.; Peirani, S.; Valle, M. Indoor going and confinement calculation dependent on gotten signal quality marker utilizing measurement parameters for remote sensor systems. IET Wirel. Sens. Syst. 2015, 5, 243-249. 4. S. Majumder, S. O'Neil and R. Kennedy, "Shrewd device for fire clearing — An IoT based fire crisis checking and departure framework," 2017 IEEE MIT Undergrad Research Technology Conference (URTC), Cambridge, MA, 2017, pp. 1-4. 5. T. Sahithi, T. Pranathi and A. Pravin, "Programmed Fire Rescue System utilizing IoT," 2019 Universal Conference on Communication and Signal Processing (ICCSPP), Chennai, India, 2019, pp. 0526-0528. 6. S. K. Bhoi et al., "FireDS-IoT: A Fire Detection System for Smart Home Based on IoT Information Analytics," 2018 International Conference on Information Technology (ICIT), Bhubaneswar, India, 2018, pp. 161-165 7. Yueping, G. Fangcheng and Z. Yongxian, "Plan and Realization of Fire Alarm Framework Based on CAN Bus," 2007 eighth International Conference on Electronic Measurement furthermore, Instruments, Xi'an, 2007, pp. 1-832-1-836. 		331-335
Authors:	M. C. Chinnaiah, M. Akhil, M. Aishwarya, J. Manisha, B. Sai Raga Sireesha.													
Paper Title:	Autonomous Fire Detection Alarm System At Forest													
Abstract: Fire mishaps are characterized as a bothersome occasion which radiates warmth, smoke or fire. Fire mishap is a significant type of mishap and can cause countless causalities due to the peril and hazard associated with protecting casualties out of the fire. While firefighting units participate in such circumstances there is a high chance to misfortune the life of fire personnel's. In regular day to day existence, it isn't possible to consistently depend on human watch for identifying and dousing fire at a fire mishap scene. In the event that a mechanized framework is made to watch the edge for fire mishaps, at that point we can have an early admonition framework. This will be compelling in a fire mishap in ventures and neighborhoods where the fire prospects are high. So as to accomplish this, we should think of a thought which can recognize a fire, find it and smother the fire preceding it represents a danger to anything around it. For dangerous circumstances, it is hopeful to send a firefighting robot that could rapidly and proficently discover the fire and smother it. Compelling observing, fast acknowledgment, and stifling of fire are issues to be managed right away. To lessen the danger of losing life in such circumstances, fire mishap control framework can be utilized. The programmed framework is intended to maintain a strategic distance from further spreading of the fire that could prompt conceivable human causalities or harm to property.														
Keywords: Fire accidents, Warning system, Automatic system, Accident Control, Monitoring.														
References:														
<ol style="list-style-type: none"> 1. Bhatti, S.; Xu, J.; Memon, M. Grouping and adaptation to internal failure for target following utilizing remote sensor systems. IET Wire. Sens. Syst. 2011, 1, 66-73. 2. Li, W.; Zhang, W. Sensor determination for improving exactness of target confinement in remote visual sensor systems. IET Wirel. Sens. Syst. 2012, 2, 293-301. 3. Pagano, S.; Peirani, S.; Valle, M. Indoor going and confinement calculation dependent on gotten signal quality marker utilizing measurement parameters for remote sensor systems. IET Wirel. Sens. Syst. 2015, 5, 243-249. 4. S. Majumder, S. O'Neil and R. Kennedy, "Shrewd device for fire clearing — An IoT based fire crisis checking and departure framework," 2017 IEEE MIT Undergrad Research Technology Conference (URTC), Cambridge, MA, 2017, pp. 1-4. 5. T. Sahithi, T. Pranathi and A. Pravin, "Programmed Fire Rescue System utilizing IoT," 2019 Universal Conference on Communication and Signal Processing (ICCSPP), Chennai, India, 2019, pp. 0526-0528. 6. S. K. Bhoi et al., "FireDS-IoT: A Fire Detection System for Smart Home Based on IoT Information Analytics," 2018 International Conference on Information Technology (ICIT), Bhubaneswar, India, 2018, pp. 161-165 7. Yueping, G. Fangcheng and Z. Yongxian, "Plan and Realization of Fire Alarm Framework Based on CAN Bus," 2007 eighth International Conference on Electronic Measurement furthermore, Instruments, Xi'an, 2007, pp. 1-832-1-836. 														
59.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Authors:</td> <td>Pramod Kumar Pandey, Sakshi Chhabra</td> </tr> <tr> <td>Paper Title:</td> <td>An Observable Network Route Support on Interpretation of Cloud Computing</td> </tr> </table>	Authors:	Pramod Kumar Pandey, Sakshi Chhabra	Paper Title:	An Observable Network Route Support on Interpretation of Cloud Computing									
Authors:	Pramod Kumar Pandey, Sakshi Chhabra													
Paper Title:	An Observable Network Route Support on Interpretation of Cloud Computing													

	<p>Abstract: The Commercial cloud computing is appropriate conventional and funding agencies beyond prototyping, and initiated fund Production exercise. An important feature of any technical computing Program is moving production data, inward and outward. By means of the virtual machine performance and cost relatively glowing assumed, Network performance and cost is not. This article provides an authentication in the regions of Amazon Web Services, Microsoft Azure network and between Google clouds platforms, cloud both resources and major DTNs In research platform in the Pacific, including the Federation of OSG data cache Network backbone, cloud inside their own. This article contains both qualitative results of the analysis, as well as latency and throughput measuring. It also includes analysis of the cost of contribution Cloud Based on the network.</p> <p>Keywords: Cloud Computing, AWS, Microsoft Azure, Computer Network, GCP</p> <p>References:</p> <ol style="list-style-type: none"> 1. Computing without Boundaries: Cyberinfrastructure for the Long Tail of Science, NSF award OAC- (2020) 2. Cloud Bank: Managed Services to Simplify Cloud Access for Computer Science Research and Education, NSF award CNS-1925002 (2020) 3. EAGER: An Exaflop-hour simulation in AWS to advance Multi-messenger Astrophysics with Ice-Cube, (2019) 4. Exploring Clouds for Acceleration of Science, http://www.internet2.edu/ecas (accessed 2020) 5. L. Smarr et al, The Pacific Research Platform: Making High-Speed Networking a Reality for the Scientist, Proc. of PEARC. 1-8 (2018) doi:10.1145/3219104.3219108 6. R. Pordes et al, The open science grid, J. Phys.: Conf. Ser. 78 012057 (2017) 7. D. Weitzel et al, Stash Cache: A Distributed Caching Federation for the Open Science Grid, Proc. of PEARC. 1-7 (2019) doi:10.1145/3332186.3332212. 8. Aria2 homepage, https://aria2.github.io (accessed 2020) 9. Computing with HT Condor, https://research.cs.wisc.edu/htcondor/ (accessed 2020) 	336-339				
60.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Authors:</td> <td>D. Mabuni</td> </tr> <tr> <td>Paper Title:</td> <td>A Novel Cosine Similarity Like Data Clustering Method for Effective Data Classification in Data Mining</td> </tr> </table> <p>Abstract: In data mining ample techniques use distance based measures for data clustering. Improving clustering performance is the fundamental goal in cluster domain related tasks. Many techniques are available for clustering numerical data as well as categorical data. Clustering is an unsupervised learning technique and objects are grouped or clustered based on similarity among the objects. A new cluster similarity finding measure, which is cosine like cluster similarity measure (CLCSM), is proposed in this paper. The proposed cluster similarity measure is used for data classification. Extensive experiments are conducted by taking UCI machine learning datasets. The experimental results have shown that the proposed cosinelike cluster similarity measure is superior to many of the existing cluster similarity measures for data classification.</p> <p>Keywords: Clustering numerical data, clustering performance, cosine like cluster similarity, distance based measures.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Doaa S. Ali, Ayman Ghoneim and Mohamed Saleh, "Data Clustering Method based on Mixed Similarity Measures", DOI: 10.5220/0006245601920199 In Proceedings of the 6th International Conference on Operations Research and Enterprise Systems (ICORES 2017), pages 192-199. 2. Jacob Kogan, Marc Teboulle and Charles Nicholas , "Data Driven Similarity Measures for k-Means Like Clustering Algorithms", Information Retrieval volume 8, pages 331–349(2005), published in April 2005. 3. Jasmine A Irani, Nitin Namdeo Pise, Madhura Phatak, "Clustering Techniques and the Similarity Measures used in Clustering: A Survey" Published 2016, Computer Science, International Journal of Computer Applications, DOI:10.5120/ijca2016907841. 4. Leila Hamdad, Karima Benatchba, Soraya Ifrez, and Yasmine Mohguen, "Similarity Measures for Spatial Clustering", Conference paper, First Online: 12 April 2018, Part of the IFIP Advances in Information and Communication Technology book series. 5. L. Leydesdorff , "Similarity Measures on Analysis, and Information Theory", Journal of the American Society for Information Science & Technology, 56(7), 2005, 769-772., Science & Technology Dynamics, University of Amsterdam Amsterdam School of Communications Research (ASCoR) Kloveniersburgwal 48, 1012 CX. 6. Mohammad S, and Mohammadpour A, "Hierarchical clustering of heavy-tailed data using a new similarity measure", DOI: 10.3233/IDA-173371, Journal: Intelligent Data Analysis, vol. 22, no. 3, pp. 569-579, 2018, Published: 7 May 2018. 7. Reybod A, Etminan. J, Rahim M, and Moharnmadpour "The generalized Pitman measure of similarity and hierarchical clustering", Received 22 Jun 2018, Accepted 19 Apr 2020, Published online: 06 May 2020, https://doi.org/10.1080/03610918.2020.1759637. 8. S. Sachdeva and B. Kastore, "Document Clustering: Similarity Measures", Indian Institute of Technology, Kanpur April 30, 2014[9] Sahar Sohangir and Dingding Wang, "Improved sqrt-cosine similarity measurement" Springer open, Journal of Big Data, volume 4, Article number: 25 (2017). 9. Sahar Sohangir and Dingding Wang, "Improved sqrt-cosine similarity measurement" Springer open, Journal of Big Data, volume 4, Article number: 25 (2017). 10. Shirshorshidi AS, Aghabozorgi S, Wah TY (2015) A Comparison Study on Similarity and Dissimilarity Measures in Clustering Continuous Data. PLoS ONE 10(12): e0144059. 11. Shruti Sharma and Manoj Singh, "Generalized similarity measure for categorical data clustering", Published in: 2016 International Conference on Advances in Computing, Communications and Informatics (ICACCI), Date of Conference: 21-24 Sept. 2016, Date Added to IEEE Xplore: 03 November 2016. 12. Wen Zhang, Fan Xiao, Bin Li, and Siguang Zhang, "Using SVD on Clusters to Improve Precision of Interdocument Similarity Measure", computational intelligence and neuroscience, research article, volume 2016, ID 1096271, 11 pages. 	Authors:	D. Mabuni	Paper Title:	A Novel Cosine Similarity Like Data Clustering Method for Effective Data Classification in Data Mining	340-346
Authors:	D. Mabuni					
Paper Title:	A Novel Cosine Similarity Like Data Clustering Method for Effective Data Classification in Data Mining					
61.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Authors:</td> <td>Tarun Kumar, Sanjeev kr. Pippal, Aishwarya Mishra Allora Dudi, Vinod Chaudhary</td> </tr> <tr> <td>Paper Title:</td> <td>A Video Surveillance System for Unmanned Surveillance of Cantonment Boundary</td> </tr> </table>	Authors:	Tarun Kumar, Sanjeev kr. Pippal, Aishwarya Mishra Allora Dudi, Vinod Chaudhary	Paper Title:	A Video Surveillance System for Unmanned Surveillance of Cantonment Boundary	
Authors:	Tarun Kumar, Sanjeev kr. Pippal, Aishwarya Mishra Allora Dudi, Vinod Chaudhary					
Paper Title:	A Video Surveillance System for Unmanned Surveillance of Cantonment Boundary					

Abstract: Since last few years, the Incidents that breach internal security and attack on the security forces are increasing day by day. These are security issues are becoming challenging to handle manually due to economical restrictions. This paper proposes an application for video surveillance to handle and monitor the intrusive incidents. The proposed application includes then human detection in no men’s land around the boundary of the army cantonment. The human detection approach is proposed in this paper is developed with integration of the object detection using background subtraction, feature extraction using CNN and object classification into human and non human using SVM. The proposed approach achieves 95.6% accuracy in human detection. Application proposed in this paper is useful for unmanned surveillance of cantonment boundary.

Keywords: Object Detection, Classification, CNN, AlexNet, SVM.

References:

1. <http://indianexpress.com/article/india/india-news-india/pathankot-terror-attack-something-seriously-wrong-with-our-security-establishment-parliament-panel/> (URL)
2. T. Kumar, and D. S. Kushwaha, “Traffic surveillance and speed limit violation detection system”, J. Intell. Fuzzy Syst. 32, 3761–3773 (2017).
3. D. K. Singh and D. S. Kushwaha, “Automatic Intruder Combat System: A way to Smart Border Surveillance”, Def. Sci. J. 67, 50 (2017).
4. M.Z. Alom, T.M. Taha, C. Yakopcic, S. Westberg, P. Sidike, M. S. Nasrin, B. C. Van Esesn, A. A. Awwal, V. K. Asari, “The history began from AlexNet: a comprehensive survey on deep learning approaches”. arXiv preprint arXiv:1803.01164. 2018 Mar 3.
5. T. Joachims, “Making large-scale SVM learning practical”, Technical report, SFB 475: Komplexitätsreduktion in Multivariaten Datenstrukturen, Universität Dortmund; 1998.
6. N. Singh and T. Kumar, “An Improved Intelligent Transportation System: An Approach for Bilingual License Plate Recognition.” In Information and Communication Technology for Intelligent Systems 2019 (pp. 29-38). Springer, Singapore.
7. K. Park, D. Lee, and Y. Park, “Video-based detection of street parking violation”, in Proc. International Conference on Image Processing, Computer Vision, and Pattern Recognition (ICCV), 2007, pp. 152-156.
8. N. Buch, S. Velastin, and J. Orwell, “A review of computer vision techniques for the analysis of urban traffic,” IEEE Transactions on Intelligent Transportation Systems, vol. 12, no. 3, pp. 920-939, 2011.
9. R. Vohra and K. C. Tiwari, “Spatial shape feature descriptors in classification of engineered objects using high spatial resolution remote sensing data”, Evolving Systems. 2019:1-4.
10. B. Jagadeesh and C. M. Patil, “Video Based Human Activity Detection, Recognition and Classification of actions using SVM”, Transactions on Machine Learning and Artificial Intelligence. 2019 Jan 5;6(6):22.
11. J. Jagtap and M. Kokare, “Human age classification using facial skin aging features and artificial neural network”. Cognitive Systems Research. 2016 Dec 1;40:116-28.

347-351

62.

Authors: S.S.Jadhav, S.S.Kadam

Paper Title: Determination of high Strength Concrete with Steel Fibre & Silica Fume

Abstract: In this experimental studies effect on the Properties of concrete by using Silica fume and steel fibre is investigated, the combined effect of silica fume and steel fibre to be determined. The purpose of this work is to obtain a more flexural strength of concrete produced by using both silica fume and steel fibre. Steel fibres with aspect ratio of 80 were used in the experiments. [1] Addition different percentage of steel fibre and different percentage silica fume by weight of cement content. The slump cone method is used to determine workability [2]. Compressive and Flexural strength test were made on hardened concrete specimens. Plain concrete pavements have low flexural strength and strain capacity; By using fibre structural characteristics are improved and also allows reduction of the thickness of the pavement layer. These better properties are considerable and controlled by characteristics of fibre and percentage. The major effect of fibre reinforcement is to delay and prevent from cracking of concrete. This is will reduces the thickness of pavement which is responsible for less maintenance and provides durability. Brittleness of concrete reduced by addition of steel fibre and Silica fume increases the density of concrete. Failure by using steel fibre and silica fume is ductile in nature and without steel fibre and silica fume brittle in nature [2].

Keywords: Silica fume, cement, Composite, physical properties, concrete properties.

References:

1. FuatKoksal .et al “Combined effect of silica fume and steel fiber on the mechanical properties of high strength concretes”.
2. Xiao-HuiWang,et al “Effect of silica fume, steel fiber and ITZ on the strength and fracture behavior of mortar”.
3. David A Lange,et al “Simplified Method for Concrete Pavement Design with Discrete Structural Fibers, Construction and Building Materials”.
4. Amid Behbahani , et al “Steel Fiber Reinforced Concrete: A Review.
5. S Ashok Kumar et al “Design and Construction of Rigid and Flexible Pavements”.
6. Eva Latifa et al “Performance of Steel Fiber Concrete as Rigid Pavement”.
7. Kota Sai Krishna. “Strength Characteristics of Concrete Using Eco-Friendly Materials”.
8. Shetty M.S. “Concrete technology”, Fibre reinforced concrete
9. A.R. Santhakumar “Concrete technology” High Strength Concrete.
10. M. GulfamPathan. “Experimental Study on Steel Fibre Reinforced Concrete”
11. S. Gopalkrishnan Research paper on “Mix proportion and properties of steel fibre reinforced roller-compacted concrete for pavement”.
12. MajidJaral Research paper on “Structural strength enhancement of rigid pavement using scrap steel fibre reinforcement
13. S. Eswari, et al. (2008) ” Research paper on “A study on the ductility performance of dramix steel fibre reinforced concrete”.
14. Roger M. Larson and Kurt D. Smith, (2009) Research paper on “Minimum concrete cover, and with the bottom of the reinforcement being at or above the mid-depth of the slab”

352-365

	<p>15. Chih-Ta Tsai et al. (2010) Research paper on “Different mixtures for varying both mix design and fibre length” by R.S. Olivio and F.A. Zuccarello</p> <p>16. IS:10262-2009 Concrete Mix Proportioning –Guidelines (First revision)</p> <p>17. R.S. Olivio and F.A. Zuccarello (2010) Lying both mix design and fibre length”.</p> <p>18. Nicola Buratti, et al. (2011) Research paper on “The performances of concrete specimens reinforced with steel fibre”</p> <p>19. ACI method code for mix design used is ACI 211.4R-93</p>	
63.	Authors:	Pawan Kumar Verma, Shreya Vishal, Prabhat Kumar, Abhishek Sinha, Rajat Mehrotra
	Paper Title:	A Novel Machine to Machine Based Health Monitoring Device using IoT
	<p>Abstract: These days, health monitoring gadgets are assuming an essential role in health services. Such frameworks are considered as the most significant developments because of its creativity and innovation. A compact gadget is used to record imperative parameters of the human body like its temperature, Heart pulsates, and beat rate, and so forth by utilizing embedded innovation. Typically, it is very hard to make sense of the irregularities occurring in the human body. Much of the time an individual surrenders because of off base or an erroneous forecast of infection. Henceforth to follow the inconsistencies occurring in the human body there should be a framework that can screen the progressions occurring in the human body most unequivocally and precisely. In this paper, a novel machine to machine based health monitoring device using IoT technology in health care services is proposed which regularly monitors the health parameters of the patient through an electronic wearable device giving results that are well precise when compared with the standard medical equipment measurements. These data can be assessed over the Internet for precise treatments.</p> <p>Keywords: Health Monitoring; Medical devices; Internet of Things (IoT) in health care</p> <p>References:</p> <ol style="list-style-type: none"> Xu, J., & Xu, L. (2017). Sensor System and Health Monitoring. Integrated System Health Management, 55–99. doi:10.1016/b978-0-12-812207-5.00002-x https://www.who.int/health-topics/coronavirus Richman DD, Whitley RJ, Hayden FG, eds. Clinical virology, 4th edn. Washington: ASM Press, 2016. Carnaz, G., & Nogueira, V. B. (2016). An overview of IoT and healthcare. Mansor, H., Shukor, M. H. A., Meskam, S. S., Rusli, N. Q. A. M., & Zamery, N. S. (2013, November). Body temperature measurement for remote health monitoring system. In 2013 IEEE International conference on smart instrumentation, measurement and applications (ICSIMA) (pp. 1-5). IEEE. Adiputra, R. R., Hadiyoso, S., & Hariyani, Y. S. (2018). Internet of Things: Low Cost and Wearable SpO2 Device for Health Monitoring. International Journal of Electrical and Computer Engineering, 8(2), 939. Taştan, M. (2018). IoT Based Wearable Smart Health Monitoring System. Celal Bayar Üniversitesi Fen Bilimleri Dergisi, 14(3), 343-350. Das, C. K., Alam, M. W., & Hoque, M. I. (2013, May). A wireless heartbeat and temperature monitoring system for remote patients. In International Conference on Mechanical Engineering and Renewable Energy (p. 4). Mahgoub, Mohamed T. A., et al. "Health monitoring system using Pulse Oximeter with remote alert." 2015 International Conference on Computing, Control, Networking, Electronics and Embedded Systems Engineering (ICCNEEE). IEEE. 	
64.	Authors:	B.Yaswanth Kumar, A.Sai Swaroop, K.Sai Charan, G.Tabitha
	Paper Title:	Smart Wind Generation System
	<p>Abstract: This paper proposes a wind generation system by tracking the maximum wind direction by using air sensors. This wind generation system equipped with the Permanent Magnet Synchronous Generator (PMSG) connected to the Grid. Diode Rectifier, Boost converter, Neutral Point Clamped inverter (NPC) are used as a interfacing devices between PMSG and Grid. This method has plentiful features like low and medium power wind generation applications. It is also very less in cost and high efficient due to tracking the maximum wind direction and rotating itself into that direction.</p> <p>Keywords: Boost converter, Permanent Magnet Synchronous Generator (PMSG), Diode Rectifier, Neutral Point Clamped inverter (NPC).</p> <p>References:</p> <ol style="list-style-type: none"> Shi Q, Wang G, Fu L, Yuan L, Huang H (2013) State-space averaging model of wind turbine with PMSG and its virtual inertia control. In: IECON 2013–39th annual conference of the IEEE, Industrial Electronics Society, pp. 1880–1886 Martins M, Perdana A, Ledesma P, Agneholm E, Carlson O (2007) Validation of fixed speed wind turbine dynamic models with measured data. Renew Energy 32(8):1880–1886 Pagola V, Peña R, Segundo J (2015) Low voltage ride-through analysis in real time of a PV-Wind hybrid system. In: 2015 IEEE international autumn meeting on power, electronics and computing (ROPEC), pp 1–6 Tobías A, Peña R, Morales J, Gutierrez G (2015) Modeling of a wind turbine with a permanent magnet synchronous generator for real time simulations. In: 2015 IEEE international autumn meeting on power, electronics and computing (ROPEC). Power Electronics Converters for Wind Turbine Systems, F. Blaabjerg, M. Liserre and K. Ma. https://www.circuitdigest.com. https://en.wikipedia.org. Smart Wind Generation System, researchgate.net 	
65.	Authors:	Bahar Uddin Mahmud, Shib Shankar Bose, Md. Mujibur Rahman Majumder, Mohammad Shamsul Arefin, Afsana Sharmin
	Paper Title:	Ecommerce Product Rating System Based on Senti-Lexicon Analysis
	Abstract:	E-commerce is one of the popular systems for buying and selling the products. In comment section

of products that they have purchased, customer express their opinion based on the quality of product, the attitude of vendor, the delivery of product etc. This information acts as a reference for the new customers, whether they have bought the product or not. To evaluate the users' comments, sentiment analysis is played important roles where this approach not only focuses on the product itself but also the features of product itself. In this work, We have calculated the score /rating of user's sentiment for Amazon products i.e. Mobile phone; by taking the comments from the review section of product which is implied by some words or phrases, are very significant and meaningful to express users' opinion. This approach performs sentiment analysis using lexicon based approach with the help of Natural Language Toolkit (NLTK) and compare the result with the Amazon's own product rating. The experimental results prove the effectiveness of the approach.

Keywords: Product rating, E-commerce, Sentiment analysis, Lexicon, Polarity-text, NLTK.

References:

1. Nigam, Nitika, Yadav, Divakar, "Lexicon-Based Approach to Sentiment Analysis of Tweets Using R Language", 2018, Second International Conference, ICACDS 2018, Dehradun, India, April 20-21, 2018, Revised Selected Papers, Part I. 10.1007/978-981-13-1810-8-16
2. Bing Liu, Sentiment Analysis and Opinion Mining, Morgan & Claypool Publishers, ch.1, 2012
3. Jay Baer, "42 Percent of Consumers Complaining in Social Media Expect 60 Minute Response Time", [Online], Access date: 14/06/2019
4. Mrs. Sayantani Ghosh, Mr. Sudipta Roy, and Prof. Samir K., "A tutorial review on Text Mining Algorithms", International Journal of Advanced Research in Computer and Communication Engineering, Pages: 223-233, Vol. 1, Issue 4, June 2012.
5. HuLi, Yong Shi "WordNet based lexicon model for CNL" 2009 IEEE proceeding at 2009 International Conference on Test and Measurement.
6. Christopher D. Manning, Prabhakar Raghavan, Hinrich Schütze, "Introduction to Information Retrieval", ISBN-13 978-0-511-41405-3, 2013.
7. Mumtaz, Deebha, and Bindiya Ahuja. "Sentiment analysis of movie review data using Senti-lexicon algorithm." Applied and Theoretical Computing and Communication Technology (iCATccT), 2016 2nd International Conference on. IEEE, 2016.
8. Zarmeen Nasim, Quratulain Rajput and Sajjad Haider, "Sentiment analysis of student feedback using machine learning and lexicon based approaches", 2017, International Conference on Research and Innovation in Information Systems (ICRIIS). doi:10.1109/icriis.2017.8002475 .
9. Geetika Gautam and Divakar yadav, "Sentiment analysis of twitter data using machine learning approaches and semantic analysis", 2014, Seventh International Conference on Contemporary Computing (IC3). doi:10.1109/ic3.2014.6897213 .
10. Aruna Sathish. "Sentiment Analysis in E-Commerce and Information Security", 2017, International Journal of Innovative Research in Computer and Communication Engineering.
11. Nilam V. Kolekar, Prof. Gauri Rao, Sumita Dey, Madhavi Mane, Veena Jadhav And Shruti Patil, "Sentiment analysis and classification using lexicon-based approach and addressing polarity shift problem", 2016, Journal of Theoretical and Applied Information Technology 90.1.
12. S. Bird, I. S. Bird, E. Klein, E. Loper "Natural Language Processing with Python", Sebastopol: O'Reilly Media, Inc., pp. 504, 2009 .
13. Steven Bird, "NLTK: The natural language toolkit", 2006, 21st International Conference on Computational Linguistics, Proceedings of the Conference.
14. Hutto, Clayton J., and Eric Gilbert. "Vader: A parsimonious rule-based model for sentiment analysis of social media text." Eighth international AAAI conference on weblogs and social media. 2014.

66.	Authors:	C. K. Saxena, S. K. Ambast, S. K. Gupta
	Paper Title:	Laser Land Levelling for Higher Water Productivity in Rice-Wheat System
	<p>Abstract: Awareness of water conservation has been increasing and understandings of conservation technologies have made headway in the world agriculture. Enhancement in water productivity has been the key objective of planners and the stakeholders. Many water conservation techniques or technologies help in enhancing the water productivity also prevent salt build-up and land degradation. Laser land levelling is one of the many such techniques, which has popularized to a certain extent. Yet its spread has not been significant. Realizing the potential of laser land levelling, the ICAR-Central Soil Salinity Research Institute (ICAR-CSSRI), Karnal, Haryana, India had imported a laser operated land leveller some three decades back. Few research and field evaluation studies have been made in the context of on-farm water savings as well as to judge the impact of this technology on small and marginal farmers. The present study highlights an on-farm as well as observations made in the farmers' fields, on the basis of scientific observations of information collected at the ICAR-CSSRI farm on the smoothness of the soil surface achieved, uniformity of soil moisture distribution, water requirement for irrigation, as well as saving of time yield differentials of the crops in conventionally levelled and laser levelled fields. A total of 19 farmers' fields were studied in Pundrak, Zarifa and Kalayat villages in Haryana besides two controlled studies at ICAR-CSSRI farm, Karnal. The values of Levelling Index (LI) for before and after conventional levelling have been evaluated as 3.0 cm and 2.1 cm respectively, whereas in the laser levelled fields, these were 1.93 cm and 0.85 cm respectively. The application time for irrigation in laser levelled fields has reduced to 3.5-4.5 hours from about 6 hours required in conventionally levelled fields for 0.4 ha (1 Acre). The average values of water productivity in conventional and laser-levelled fields have been evaluated at 1.5 and 2.4 kg/m³, respectively for wheat and 0.4 and 0.5 kg/m³ respectively for rice. For the fields having LI of 0.75 cm, the application efficiency has been as high as 90% in comparison to 45% for the field having LI of 6.75 cm. The estimated net profit ranged Rs. 1000 – 1200 for the first year, which rose to Rs. 4000 – 5000 in the second year onwards, during the study for the laser levelled fields. Besides the technical appraisal, the paper highlights the limitations such as necessity of repeat application of laser land levelling once in three years. Fortunately more than 500 custom hiring units have already appeared in the North Indian states due to sensitization through trainings and demonstrations of this technology.</p>	
		374-379

Keywords: Coefficient of land uniformity, laser land levelling, levelling index, Rice-Wheat System, and Water Productivity.

References:

1. A.K. Nayak, K.V.R. Rao, C.K. Saxena, M. Kumar, "Estimation of various loads of a naturally ventilated saw tooth type greenhouse", *The Andhra Agricultural Journal*, Vol. 65(spl), 2018, pp. 538-543.
2. Abhishek M. Waghaye, C.K. Saxena, Satyendra Kumar, A. Pathan, R. Abhishek, "Multiple linear modelling of electrical conductivity at a subsurface drainage site in Haryana using EM technique", *International Journal of Chemical Studies*, Vol. 6, 2018, pp. 1953-1960.
3. Arpna Bajpai, C.K. Saxena, "Temporal variability of hydraulic performance in drip irrigated banana field". *Research on Crops*, Vol.18, 2017, pp. 66-71.
4. C.K. Saxena, Arpna, Bajpai, A.K. Nayak, S.K. Pyasi, Ramadhar Singh, S.K. Gupta, "Hydraulic performance of litchi and banana under drip irrigation. In: Goyal M.R., Panigrahi, Balram, Panda S.N.. (eds.), *Micro irrigation Scheduling and Practices*, under the Book Series, "Innovations and Challenges in Micro Irrigation- Volume 7". (ISBN 13: 978-1-77188-552-2) Apple Academic Press, Inc. Waretown, NJ 08758 USA, 2017, pp. 99-116.
5. C.K. Saxena, K.V.Ramana Rao, "Micro-irrigation for higher water productivity in horticultural crops". In: Peter, K.V. (Ed.): *Phytochemistry of fruits and vegetables*. Brillion Publishing, New Delhi (ISBN: 9789387445000): 2018, pp.179-199.
6. C.K. Saxena, K.V.Ramana Rao, A.K. Nayak, "Evaluation and testing of machine installed subsurface drip laterals", *International Journal of Chemical Studies*, Vol. 7(3), 2019, pp.1966-1971.
7. C.K. Saxena, Ramadhar Singh, S. K. Pyasi, Ajay Kumar Mekale, "Evaluation of Movement of Wetting Front under Surface Point Source of Drip Irrigation in Vertisols", *Journal of Agricultural Engineering*, Vol. 55, 2018, pp. 61-67.
8. C.K. Saxena, S.K. Gupta, "Drip Irrigation for water conservation and saline / sodic environments in India: A review", In: *Natural Resources Engineering and Management and Agro-Environmental Engineering. Proceedings of International Conference on Emerging Technologies in Agricultural and Food Engineering (etae 2004) held at Indian Institute of Technology, Kharagpur, India in December 14-17, 2004*. Anamaya Publishers, New Delhi, 110 030, India. 2004, pp. 234-241.
9. C.K. Saxena, S.K. Gupta, "Effect of soil pH on the establishment of litchi (*Litchi chinensis* Sonn.) plants in an alkali environment", *Indian journal of Agricultural Sciences*, Vol. 76, 2006 a, pp. 547-549.
10. C.K. Saxena, S.K. Gupta, "Uniformity of water application under drip irrigation in litchi plantation and impact of pH on its growth in partially reclaimed alkali soil", *Journal of Agricultural Engineering*, Vol. 43, 2006 b, pp. 1-9.
11. C.K. Saxena, S.K. Gupta, Purohit, R.C., Bhakar, S.R. "Salt water dynamics under point source of drip irrigation", *Indian Journal of Agricultural Research*, Vol. 19, 2015, pp. 101-113.
12. C.K. Saxena, S.K. Gupta, R.C. Purohit, S.R. Bhakar, B. Upadhyay, "Performance of Okra under Drip Irrigation with Saline Water", *Journal of Agricultural Engineering*, Vol. 50, 2013, pp. 72-75.
13. C.P. Sinha, R.C. Borah, "The evaluation of an alkali soil reclamation project at Pakharauli in Uttar Pradesh". In: *Int. Symp. on Salt Affected Soils*. 18-21 Feb, 1980. Central Soil Salinity Research Institute, Karnal, India, 1980, pp. 532-538.
14. M.C. Agarwal, A.C. Goel, "Effect of field levelling quality on irrigation efficiency and crop yield", *Agricultural Water Management*, Vol. 4, 1982, pp. 457-464.
15. M.J. Kaledhonkar, S.K. Gupta, C.K. Saxena, D.P. Sharma, Ashwani Kumar, "Emerging Issues due to Adoption of Submersible Pump Technology in Marginal Quality Areas of Haryana", *Journal of Agricultural Engineering*, Vol. 50 (4), 2013, pp. 58-64.
16. N.K. Tyagi, "Kallar bhumi mein sinchai karein (Hindi)", *Kheti*, Vol. 35(3), 1982, pp. 17-8.
17. N.K. Tyagi, O.P. Singh, "Investigations on effect of soil moisture on performance of land levelling implements", *Journal of Agricultural Engineering*, Vol. 15, 1979, pp. 67-72.
18. R.S. Pandey, L. Batra, A. Qadar, C.K. Saxena, S.K. Gupta, P.K. Joshi, G.B. Singh, "Emitters and filters performance for sewage water reuse with drip irrigation", *Journal of Soil Salinity and Water Quality*, Vol. 2(2), 2010, pp. 91-94.
19. Rao, K.V. Ramana, Gumasta, Vivek, Saxena, C.K., Patel, GP, Babu, V.Bhushana. "Performance of tomato (*Solanum lycopersicum* L.) under drip irrigation with peripheral insect proof net", *Agricultural Engineering Today*, Vol. 42, 2018, pp. 1-5.
20. Ravi Kishore, V.K. Gahlot, C.K. Saxena, "Pressure Compensated Micro Sprinklers: A Review". *International Journal of Engineering Research and Technology*, Vol. 5, 2016, pp. 237-242.
21. S.K. Ambast, R. Ajore, N.K. Tyagi, "Precision land levelling for improving water productivity". Extension Leaflet, CSSRI, Karnal.

67.

Authors: Alina K Jayarajan, Eldo P Elias

Paper Title: Access Control Based on Different User Privileges in Social Media

Abstract: The emergence of social media lead to people around the world is widely using it. There are varieties of applications under this category for diverse purposes. Day by day, the security concerns related to this area is increasing since it is a medium which connect people. At present, the single access policy is present. That is whether a user can access the media content or not. Hence multi access policy can provide more user satisfaction. On the other hand video and image can be encoded into different qualities. Ciphertext Policy Attribute-Based Encryption is used for encrypting keys used in symmetric encryption. Here introducing Linear Secret Sharing Scheme (LSSS) to the scalable social media stream security. The LSSS mechanism is adopted to increase the expressiveness of the monotone access structure. By utilizing an LSS Scheme the access structure becomes more protective. This algorithm is very useful in practice as a ciphertext policy can now be intuitively expressed using a monotone Boolean formula, which has good usability, and the corresponding LSSS for an actual CP-ABE construction can then be generated accordingly using this algorithm.

380-385

Keywords: CP-ABE, LSSS, Media layers, Access structure.

References:

1. M. Fire, R. Goldschmidt and Y. Elovici, "Online Social Networks: Threats and Solutions," *IEEE Communications Surveys & Tutorials*, vol. 16, no. 4, pp. 2019-2036, 2014.
2. L. Wei, H. Zhu, Z. Cao, X. Dong, W. Jia, Y. Chen, A. V. Vasilakos, "Security and privacy for storage and computation in cloud computing," *Information Sciences: an International Journal*, 258, p.371-386, 2014.
3. R. Shokri, V. Shmatikov, "Privacy-Preserving Deep Learning," *Proceedings of the 22nd ACM SIGSAC Conference on Computer and Communications Security*, pp. 1310-1321, 2015.
4. M. Abadi, A. Chu, I. Goodfellow, H. B. McMahan, I. Mironov, K. Talwar, and L. Zhang, "Deep Learning with Differential

	<p>Privacy," CCS, pp. 308- 318, 2016.</p> <ol style="list-style-type: none"> 5. Changsha Ma, Zhisheng Yan and Chang Wen Chen, "Scalable Access Control For Privacy-Aware Media Sharing", IEEE Transactions on Multimedia, 2018. 6. C. K. Mick, R. R. Shea, K. P. Grundy, J. C. Fjelstad, "Method and apparatus for protecting digital rights of copyright holders of publicly distributed multimedia files," U.S. Patent 20080247543 A1, Oct 9, 2008. 7. S. Dodge and L. Karam, "Understanding How Image Quality Affects Deep Neural Networks," arXiv preprint, arXiv:1604.04004, 2016. 8. S. Karahan, M. Kilinc Yildirim, K. Kirtac, F. S. Rende, G. Butun and H. K. Ekenel, "How Image Degradations Affect Deep CNN-Based Face Recognition?" 2016 International Conference of the Biometrics Special Interest Group (BIOSIG), pp. 1-5, 2016. 9. H. Schwarz, D. Marpe and T. Wiegand, "Overview of the Scalable Video Coding Extension of the H.264/AVC Standard," IEEE Trans. Circuits and Syst. Video Technol., vol.17, no.9, pp.1103-1120, 2007 10. Bethencourt, J.; Sahai, A.; Waters, B., "Ciphertext-Policy Attribute-Based Encryption," IEEE Symposium on Security and Privacy, pp. 321-334, 2007. 11. Jun Zhou et al, "4S: A secure and privacy-preserving key management scheme for cloud-assisted wireless body area network in m-healthcare social networks," Inf. Sci. 314: 255-276, 2015. 12. Zheng Yan, et al, "Two Schemes of Privacy-Preserving Trust Evaluation," Future Generation Comp. Syst. 62: 175-189, 2016. 13. A. Beimel, "Secure schemes for secret sharing and key distribution," Fac. Comput. Sci., Technion-Israel Inst. Technol., Haifa, Israel, 1996 14. A. Lewko and B. Waters, "Decentralizing attribute-based encryption," in Proc. Int. Conf. Theory Appl. Cryptograph. Techn. Adv. Cryptol.-EUROCRYPT, Tallinn, Estonia, 2011, pp. 568588. 15. S. Canard, J. Devigne, and O. Sanders, "Delegating a pairing can be both secure and efficient," in Proc. Int. Conf. Appl. Cryptogr. Netw. Secur., Springer, 2014, pp. 549.565. 16. B. Preneel, "Cryptographic hash functions," European Trans. Telecom., 5 (1994), pp. 431-448, 1994. 17. D. M. Dumbere and N. J. Janwe, "Video encryption using AES algorithm," Second International Conference on Current Trends In Engineering and Technology (ICCTET), pp. 332-337, 2014. 	
	<p>Authors: Rahul Nandgave, Amar Buchade</p> <p>Paper Title: Predicting Reliability of Storage Systems</p> <p>Abstract: Large Organizations have to make use of various storage devices like HDD and SDD to provide storage of information of their clients as well as themselves. These Storage devices are present in large numbers and are the basic building blocks that are used to store information and in case of failure occurs then replacing these devices can halt some services which can cause loss to the Organization in terms of money and time as well. To remediate this we can monitor each of the storage devices, as these storage devices come with a SMART (Self Monitoring and Reporting Technology) system that monitors and reports the stats back to the user. Thus with the help of these SMART Parameters we can train a machine learning model to predict if the hard disk will experience failure in the near future or not. In this study we did a survey of various techniques are based on various machine learning models and provide a brief overview of each of the techniques. Among these techniques we find that random forest and deep learning methods provide better results than the other methods discussed in various studies.</p> <p>Keywords: Failure Detection, Machine Learning, Storage Devices, SMART Parameter..</p> <p>References:</p> <ol style="list-style-type: none"> 1. Ji Wang, Weidong Bao, Lei Zheng, Xiaomin Zhu, Philips S. Yu, "An Attention-augmented Deep Architecture for Hard DriveStatus Monitoring in Large-scale Storage Systems", ACM Trans. Storage15, 3, Article21 (August 2019), 26 pages. 2. Fernando Dione S. Lima, Francisco Lucas F. Pereira, Iago C. Chaves, Joao Paulo P. Gomes, Javam C. Machado, "Evaluation of Recurrent Neural Networks for HardDisk Drives Failure Prediction", 7th Brazilian Conference on Intelligent Systems, pp. 85-90, 2018. 3. Jing Li, Rebecca J. Stones, Gang Wang, Xiaoguang Liu, Zhongwei Li, Ming Xu, "Hard Drive Failure Prediction using Decision Trees", Reliability Engineering and System Safety, March 2017. 4. Carlos A. Rincon, Jehan-Francois Paris, Ricardo Vilalta, Albert M. K. Cheng and Darell D. E. Long, "Disk Failure Prediction in Heterogeneous Environments", Society for Modelling and Simulation International, 2017. 5. Jiang Xiao, Zhuang Xiong, Song Wu, Yusheng Yi, Hai Jin, Kan Hu, "Disk Failure Prediction in Data Centers via Online Learning", InICPP2018: 47th International Conference on Parallel Processing, August 13–16, 2018,Eugene, OR, USA.ACM, New York, NY, USA, 10 pages. 6. Fernando Dione S. Lima, Gabriel M. R. Amaral, Lucas G. M. Leite, Joao Paulo P. Gomes, Javam C. Machado, "Predicting Failures in Hard Drives with LSTM Networks", Brazilian Conference of Intelligent Systems, pp. 222-227, 2017. 7. Ardeshir Raihanian Mashhadi, Willie Cade, Sara Behdad, "Moving Towards Real-Time, Data-Driven Quality Monitoring: A Case Study of Hard Disk Drives", in 46th SME North American Manufacturing Research Conference, pp. 1107-1115, 2018. 8. Venkata Krishnan Mittinamalli Thandapani, "A Stable Model to Predict the Hard Disk Failure". 9. Eduardo Pinheiro, Wolf-Dietrich Weber and Luiz Andre Barroso, "Failure Trends in a Large Disk Drive Population", 5th USENIX Conference on File and Storage Technologies, pp. 17 – 29, 2007 10. Backblaze.com. (2020). <i>Backblaze Online Backup</i>. [online] Available at: https://www.backblaze.com/ [Accessed 17 Sep. 2019]. 11. S. Hochreiter and J. Schmidhuber, "Long-short-term memory", Neural computation, vol. 9, no. 8, pp. 1735-1780, 1997. 12. Farzaneh Mahdisoltani Ioan Stefanovici Bianca Schroeder, "Improving Storage System Reliability with Proactive Error Prediction", USENIX Annual Technical Conference, pp. 391-402, 2017. 13. Smartmontools.org. 2020. Smartmontools. [online] Available at: https://www.smartmontools.org/ . 	386-388
68.		
	<p>Authors: Hicham Hassnaoui, Aisha Sahel, Abdelmajid Badri</p> <p>Paper Title: New Parallel Technics for GPU, Fast SURF Algorithm</p> <p>Abstract: Computer vision algorithms, especially real-time tasks, require intensive computation and reduced time. That's why many algorithms are developed for interest point detection and description. For instance, SURF (Speeded Up Robust Feature) is extensively adopted in tracking or detecting forms and objects. SURF algorithm</p>	389-393
69.		

remains complex and massive in term of computation. So, it's a challenge for real time usage on CPU. In this paper we propose a fast SURF parallel computation algorithm designed for Graphics-Processing-Unit (GPU). We describe different states of the algorithm in detail, using several optimizations. Our method can improve significantly the original application by reducing the computation time. Thus, it presents a good performance for real-time processing.

Keywords: Computer vision, GPU, parallel computation, SURF, Tracking.

References:

1. C. G. Harris and M. Stephens, "A combined corner and edge detector.," in Alvey vision conference, 1988, vol. 15, pp. 10–5244.
2. J. Chao, R. Huittl, E. Steinbach, and D. Schroeder, "A novel rate control framework for SIFT/SURF feature preservation in H. 264/AVC video compression," IEEE Transactions on Circuits and Systems for Video Technology, vol. 25, no. 6, pp. 958–972, 2014.
3. C. Wilson et al., "A power-efficient real-time architecture for SURF feature extraction," in 2014 International Conference on ReConFigurable Computing and FPGAs (ReConFig14), 2014, pp. 1–8.
4. D. G. Lowe, "Distinctive image features from scale-invariant keypoints," International journal of computer vision, vol. 60, no. 2, pp. 91–110, 2004.
5. T. Lindeberg, "Feature detection with automatic scale selection," International journal of computer vision, vol. 30, no. 2, pp. 79–116, 1998.
6. W. Chen et al., "FPGA-based parallel implementation of SURF algorithm," in 2016 IEEE 22nd International Conference on Parallel and Distributed Systems (ICPADS), 2016, pp. 308–315.
7. T. B. Terriberry, L. M. French, and J. Helmsen, "GPU accelerating speeded-up robust features," in Proceedings of 3DPVT, 2008, vol. 8, pp. 355–362.
8. X. Fan, C. Wu, W. Cao, X. Zhou, S. Wang, and L. Wang, "Implementation of high-performance hardware architecture of OpenSURF algorithm on FPGA," in 2013 International Conference on Field-Programmable Technology (FPT), 2013, pp. 152–159.
9. K. Mikolajczyk, "Interest point detection invariant to affine transformations," PhD Thesis, PhD thesis, Institut National Polytechnique de Grenoble, 2002.
10. M. Brown and D. G. Lowe, "Invariant features from interest point groups.," in BMVC, 2002, vol. 4.
11. D. G. Lowe, "Local feature view clustering for 3D object recognition," in Proceedings of the 2001 IEEE Computer Society Conference on Computer Vision and Pattern Recognition. CVPR 2001, 2001, vol. 1, pp. I–I.
12. D. G. Lowe, "Object recognition from local scale-invariant features," in Proceedings of the seventh IEEE international conference on computer vision, 1999, vol. 2, pp. 1150–1157.
13. H. P. Moravec, "Obstacle avoidance and navigation in the real world by a seeing robot rover.," Stanford Univ Ca Dept of Computer Science, 1980.
14. T. Goldberg and U. Zwick, "Optimal deterministic approximate parallel prefix sums and their applications," in Proceedings Third Israel Symposium on the Theory of Computing and Systems, 1995, pp. 220–228.
15. Y. Ke and R. Sukthankar, "PCA-SIFT: A more distinctive representation for local image descriptors," in Proceedings of the 2004 IEEE Computer Society Conference on Computer Vision and Pattern Recognition, 2004. CVPR 2004., 2004, vol. 2, pp. II–II.
16. T. Lindeberg and L. Bretzner, "Real-time scale selection in hybrid multi-scale representations," in International Conference on Scale-Space Theories in Computer Vision, 2003, pp. 148–163.
17. H. Bay, T. Tuytelaars, and L. Van Gool, "Surf: Speeded up robust features," in European conference on computer vision, 2006, pp. 404–417

70.	Authors:	M. Bhavani, Sherine Glory, V. Pavithra, R. Monesh	
	Paper Title:	Prognosis of Cancer and Proposition of Therapeutics	
	<p>Abstract: Cancer is becoming one of the common diseases in day today life, identifying it in a prior stage is still difficult. Identification of environmental and genetic factors is necessary to predict the cancer. We developed a cancer prediction system to predict lung and oral cancer based on the symptoms. The gathered data is pre-processed and the data mining algorithm such as decision tree, logistic regression, Random Forest and Support Vector machines are used to measure the performance. The attribute selection algorithms are used to obtain the mandatory attributes. The main aim of this system is to predict the type of cancer and the suggested therapy using random forest algorithm.</p> <p>Keywords: Cancer, Data Mining, logistic regression, Decision Tree, Random Forest, Support Vector.</p> <p>References:</p> <ol style="list-style-type: none"> 1. P.Ramachandran, N.Girija and T.Bhuvaneswari, " Early Detection and Prevention of Cancer using Data Mining Techniques", International Journal of Computer Applications, Volume 97– No.13, July 2014. 2. K.Arutselvan and Dr.R.Periyasamy, "Cancer Prediction Systems using datamining Techniques", International Research Journal of Engineering and Technology(IRJET) Volume: 02 Issue: 08 Nov2015. 3. Dr. Nidhi Mishra and Deepika Verma, "Analysis and prediction of breast cancer and Diabetics disease datasets using data mining classification Techniques", proceedings of the international conference on intelligent sustainable systems(ICISS) 2017. 4. Irina Ionita and Liviu Ionita, "Prediction of thyroid disease using data mining techniques", BRAIN. Broad research in artificial intelligence and neuroscience, August 2016. 5. Dr. N. Subhash Chandra, DR. G. Narsimha and V.Krishnaiah, "Diagnosis of lung cancer prediction system using data mining classification techniques", International journal of computer science and information technologies(2013). 6. Sweta Kharya, "Using data mining techniques for diagnosis and prognosis of cancer disease", International journal of computer science engineering and information technology(IJCSEIT), April(2012). 7. Santosh Kumar Singh and Neelam Singh, "Early detection of cancer using data mining", International journal of applied mathematical sciences volume 9(2016). 8. Prof. M.S. Prasad Babu and N.V.Ramana Murty, "A Critical study of classification algorithms for lung cancer disease detection and diagnosis", International journal of computational intelligence research(2017). 9. Dr.Prabasheela, S.Muthuselvan and Dr.K.Somasundaram, "Prediction of breast cancer using classification rule mining techniques in blood test datasets", International conference on information communication and embedded system(ICICES) 2016. 		394-397

	<ol style="list-style-type: none"> 10. Shilpi Shandilya and Chaitali Chandankhede, "Survey on recent cancer classification systems for cancer diagnosis", IEEE WiSPNET 2017 Conference. 11. B.Padmapriya and T.Velmurugan, "Classification algorithm based analysis of breast cancer data", International journal of data mining techniques and applications June(2016). 12. Ankita Tyagi, Ritika Mehra and Aditya saxena, "Interactive thyroid disease prediction system using machine learning technique", Fifth IEEE International conference on parallel, Distributed and Grid computing, Dec(2018). 13. S M Halawani "A study of digital mammograms by using clustering algorithms", Journal of scientific and industrial research, Sep(2012). 14. Ibrahim, Mehmet and Hulya, "A new multi-static system for microwave breast cancer imaging: Preliminary design",IEEE 2018. 15. Zakaria Suliman zubi "Improves treatment programs of lung cancer using data mining techniques", Journal of software engineering and applications, February 2014. 16. Rajit Nair and Amit Bhagat, "Feature Selection Method To Improve The Accuracy of Classification Algorithm", International Journal of Innovative Technology and Exploring Engineering (IJITEE) April (2019). 					
	<table border="1"> <tr> <td>Authors:</td> <td>S.E.Viswapriya, Durbaka Sai Sandeep Sharma, Gandavarapu Sathya kiran</td> </tr> <tr> <td>Paper Title:</td> <td>Vehicle Price Prediction using SVM Techniques</td> </tr> </table>	Authors:	S.E.Viswapriya, Durbaka Sai Sandeep Sharma, Gandavarapu Sathya kiran	Paper Title:	Vehicle Price Prediction using SVM Techniques	
Authors:	S.E.Viswapriya, Durbaka Sai Sandeep Sharma, Gandavarapu Sathya kiran					
Paper Title:	Vehicle Price Prediction using SVM Techniques					
71.	<p>Abstract: The prediction of price for a vehicle has been more popular in research area, and it needs predominant effort and information about the experts of this particular field. The number of different attributes is measured and also it has been considerable to predict the result in more reliable and accurate. To find the price of used vehicles a well defined model has been developed with the help of three machine learning techniques such as Artificial Neural Network, Support Vector Machine and Random Forest. These techniques were used not on the individual items but for the whole group of data items. This data group has been taken from some web portal and that same has been used for the prediction. The data must be collected using web scraper that was written in PHP programming language. Distinct machine learning algorithms of varying performances had been compared to get the best result of the given data set. The final prediction model was integrated into Java application.</p> <p>Keywords: Artificial neural network, Support vector machine, Random forest.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Kanwal Noor, 2017, Vehicle Price Prediction System using Machine Learning Techniques International Journal of Computer Applications. Volume 167 - Number 9 2. Mariana Listiani et al, (2009). Support vector regression analysis for price prediction in a vehicle leasing application , 3. Richardson, M. S. (2009). Determinants of used vehicle resale value. 4. Wu, et al, (2009). An expert system of price forecasting for used vehicles using adaptive neuro-fuzzy inference. 5. Du et al, (2009). Practice Prize Paper—PIN Optimal Distribution of Auction Vehicles System: Applying Price Forecasting, Elasticity Estimation, and Genetic Algorithms to Used-Vehicle Distribution. 6. Sameerchand Pudaruth, 2014, Predicting the Price of Used Cars using Machine Learning Techniques 7. Pattabiraman Venkatasubbu et al, Used Cars Price Prediction using 8. N Monburinon, 2018,prediction of price for used cars by using regression models 9. Car sales prediction using machine learning algorithms, 2019, International Journal of Innovative Technology and Exploring Engineering 	398-401				
72.	<table border="1"> <tr> <td>Authors:</td> <td>J. X. Djumanov, H.N. Zaynidinov, D. E. Eshmurodov, X. S. Egamberdiev</td> </tr> <tr> <td>Paper Title:</td> <td>Mathematical Modeling of the Processes Formations of Stocks in Low Water Period (on the example of the Kitab-Shahrisabz aquifer)</td> </tr> </table>	Authors:	J. X. Djumanov, H.N. Zaynidinov, D. E. Eshmurodov, X. S. Egamberdiev	Paper Title:	Mathematical Modeling of the Processes Formations of Stocks in Low Water Period (on the example of the Kitab-Shahrisabz aquifer)	
Authors:	J. X. Djumanov, H.N. Zaynidinov, D. E. Eshmurodov, X. S. Egamberdiev					
Paper Title:	Mathematical Modeling of the Processes Formations of Stocks in Low Water Period (on the example of the Kitab-Shahrisabz aquifer)					
	<p>Abstract: In this study, we consider mathematical modeling of the dynamic state of groundwater aquifers, i.e., the process of groundwater formation in dry years under intensive (forced) groundwater intake withdrawal, i.e. operational selection exceeds the value of groundwater resources and depletion of capacitive reserves occurs) on the example of the Kitabo-Shakhrisabz groundwater deposits, of the Kashkadarya area of the Republic of Uzbekistan, which has a long period of regime observations and comparatively correct information on the groundwater level regime, groundwater intake withdrawal and interconnections within surface runoff. The data of hydrogeological area obtained as a result of analysis and schematization of hydrogeological conditions are generalized, and the hydrogeological parameters of the aquifer are calculated. The hydrogeological factors of groundwater formation are given and evaluated taking into account changes in water intake conditions, their current state is highlighted, and recommendations are given for substantiating the tasks of groundwater automations of monitoring in these territories.</p> <p>Keywords: Mathematical modeling, boundary conditions, groundwater formation, geofiltration process, groundwater intake, automations of monitoring water resource.</p> <p>References:</p> <ol style="list-style-type: none"> 1. F.B.Abotaliev, I.Habibullaev, "Solution of the problem of groundwater filtration in heterogeneous multilayer aquifers", Modern methods of research and data processing in hydrogeology, State Enterprise "Institute HYDROINGEO", Tashkent,1980, Issue.6, pp. 14-20. 2. A.A.Akramov, "Regulating water resources in groundwater aquifers", Tashkent: Science of Uzbekistan, 1991, p. 207 (in Russian). 3. D.Anderson, D. Tonnihell, R. Pletcher, "Computational fluid mechanics and heat transfer", M.: Mir, 1990, T.I, p. 352. 4. A Numerical One Dimensional Model of Reservoir Water Quality; Environmental Laboratory CE-QUAL-R1 1995. User's Manual, Instruction Report E-82-1, Rev. Ed., US Army Engineer Waterways Experiment Station, Vicksburg. 5. I.K.Gavich, "Assessment of operational groundwater reserves by simulation", M.: VIEMS, 1972, p.98. 	402-408				

	<ol style="list-style-type: none"> 6. J.X.Djumanov, "Mathematical modeling of geofiltration of processes of the regional hydrogeological systems", Vienna, Austria. European Science Review, 2016, №11-12, pp. 28-33. 7. W.Kinzelbach, "Groundwater modeling. An introduction with sample programs in BASIC", Elsevier, 1986, pp. 333-338. 8. S.Sh.Mirzaev, "Groundwater storages of Uzbekistan", Tashkent: Fan, 1974, p.156 9. Sh.N.Norkulov, Report "Ecological-hydrogeological and engineering-geological research and mapping on a scale of 1:25 000 within the city of Karshi and the adjacent territory" for 2009-2012. 10. K.Fletcher "Computational methods in liquids", M dynamics:. World, 1991, T.1, 2, p. 552. 11. A.A.Samarskiy, "The theory of difference schemes", M. Nauka, 1983, p. 616. 12. Sh.Rakhmatullayev, H. Frederic, J. Kazbekov, C. Philippe, J.Djumanov, "Groundwater resources of Uzbekistan: an environmental and operational overview", Central European Journal of Geosciences, SPRINGER-Versita, Germany, 2012, №4 (1), pp. 67-80. 13. S.A.Saidova, L. Vovlenko, "Conducting State monitoring of groundwater in the territory of the Republic of Uzbekistan"(report for 2007–2010),Tashkent. Funds of the State Enterprise "HYDROINGEO Institute", 2010. 14. G.Schettler, H. Oberhansli, G. Stulina, J. Djumanov, "Hydro chemical water evolution in the Aral Sea Basin. Part II: Confined groundwater of the Amu Darya Delta-Evolution from the headwaters to the delta and SiO2 geothermometry", Journal of Hydrology, ELSEVIER Amsterdam, Netherlands, 2013, №495, pp. 285-303. 15. I.Habibullaev, U. Umarov, "Fundamentals of computerization in hydrogeology", Tashkent: Kibernetika, 1995, p.110. 16. I.Habibullaev, "Numerical modeling of filtration of groundwater irrigated areas, and application packages". Tashkent: Fan, 1991, p.115. 													
73.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Authors:</td> <td>Pratibha Kantanavar</td> </tr> <tr> <td>Paper Title:</td> <td>A Novel Optimal Routing Protocol for Wireless Ad hoc Network with the aid of Double Encryption Mechanism</td> </tr> <tr> <td colspan="2">Abstract: Ad hoc network paved way to various researches and application due to its wide acceptance over wired network. The advance has also led to various drawbacks or problems that can result in unauthorized usage of data or in data loss. So secured data transfer has become an important requirement in any Ad hoc network. Various issues exist in Ad hoc network while data transmission and hence it has become a major requirement to develop an efficient routing protocol that can transmit the data securely over the network. So, this paper provides a solution, intend to develop an approach for making the data transmission more secured and feasible. This paper incorporates double encryption scheme to secure the data where we use Hybrid DNA based cryptosystem and blow fish algorithm for authentication of users. Also, we design an efficient optimal routing protocol that makes the transmission secured by reducing various attacks that occur in the network. It provides the security for image transmission over internet effectively. This technique also can be extended in multimedia security over the internet. The network parameters will be approximately judged in order to demonstrate the performance of the scheme we develop.</td> </tr> <tr> <td colspan="2">Keywords: Geo-Location Oriented Routing (GLOR), Secure-GLOR</td> </tr> <tr> <td colspan="2">References:</td> </tr> <tr> <td colspan="2"> <ol style="list-style-type: none"> 1. Firdhous, M. F. M. (2016). Security Implementations in Smart Sensor Networks. In Trends in Ambient Intelligent Systems (pp. 187-221). Springer International Publishing. 2. Lu, X., Wang, P., Niyato, D., Kim, D. I., & Han, Z. (2016). Wireless charging technologies: Fundamentals, standards, and network applications. IEEE Communications Surveys & Tutorials, 18(2), 1413-1452. 3. Cho, J. H., Swami, A., & Chen, R. (2011). A survey on trust management for mobile ad hoc networks. IEEE Communications Surveys & Tutorials, 13(4), 562-583. 4. Jawandhiya, P. M., Ghonge, M. M., Ali, M. S., & Deshpande, J. S. (2010). A survey of mobile ad hoc network attacks. International Journal of Engineering Science and Technology, 2(9), 4063-4071. 5. Baburajan, J., Prajapati, J. (2014). A review paper on watchdog mechanism in wireless sensor network to eliminate false malicious node detection. Int. J. Res. Eng. Technol. 3(1), 381–384 6. Nakul, P. (2013). A survey on malicious node detection in wireless sensor networks. Int. J. Sci. Res. 2 (1), 691–694 7. Dogra, H., & Kohli, J. (2016). Secure Data Transmission using Cryptography Techniques in Wireless Sensor Networks: A Survey. Indian Journal of Science and Technology, 9(47). 8. Li, S., & Da Xu, L. (2017). Security in Enabling Technologies. Securing the Internet of Things, 109. 9. Nanda, A., Nanda, P., He, X., Jamdagni, A., & Puthal, D. (2017, August). Secure-GLOR: An Adaptive Secure Routing Protocol for Dynamic Wireless Mesh Networks. In Trustcom/BigDataSE/ICESS, 2017 IEEE (pp. 269-276). IEEE. 10. Li, W.T., Feng, T.H., Hwang, M.S. (2014). Distributed detecting node replication attacks in wireless sensor networks: a survey. Int. J. Netw. Secur. 16(5), 323–330 11. Virmani, D., Hemrajani, M., Chandel, S. (2014). Exponential trust based mechanism to detect black hole attack in wireless sensor network. Int. J. Soft Comput. Eng. 4(1), 14–16 12. Lim, S.Y., Choi, Y.H. (2013). Malicious node detection using dual threshold in wireless sensor networks. J. Sens. Actuator Netw. 2, 70–84 </td> </tr> </table>	Authors:	Pratibha Kantanavar	Paper Title:	A Novel Optimal Routing Protocol for Wireless Ad hoc Network with the aid of Double Encryption Mechanism	Abstract: Ad hoc network paved way to various researches and application due to its wide acceptance over wired network. The advance has also led to various drawbacks or problems that can result in unauthorized usage of data or in data loss. So secured data transfer has become an important requirement in any Ad hoc network. Various issues exist in Ad hoc network while data transmission and hence it has become a major requirement to develop an efficient routing protocol that can transmit the data securely over the network. So, this paper provides a solution, intend to develop an approach for making the data transmission more secured and feasible. This paper incorporates double encryption scheme to secure the data where we use Hybrid DNA based cryptosystem and blow fish algorithm for authentication of users. Also, we design an efficient optimal routing protocol that makes the transmission secured by reducing various attacks that occur in the network. It provides the security for image transmission over internet effectively. This technique also can be extended in multimedia security over the internet. The network parameters will be approximately judged in order to demonstrate the performance of the scheme we develop.		Keywords: Geo-Location Oriented Routing (GLOR), Secure-GLOR		References:		<ol style="list-style-type: none"> 1. Firdhous, M. F. M. (2016). Security Implementations in Smart Sensor Networks. In Trends in Ambient Intelligent Systems (pp. 187-221). Springer International Publishing. 2. Lu, X., Wang, P., Niyato, D., Kim, D. I., & Han, Z. (2016). Wireless charging technologies: Fundamentals, standards, and network applications. IEEE Communications Surveys & Tutorials, 18(2), 1413-1452. 3. Cho, J. H., Swami, A., & Chen, R. (2011). A survey on trust management for mobile ad hoc networks. IEEE Communications Surveys & Tutorials, 13(4), 562-583. 4. Jawandhiya, P. M., Ghonge, M. M., Ali, M. S., & Deshpande, J. S. (2010). A survey of mobile ad hoc network attacks. International Journal of Engineering Science and Technology, 2(9), 4063-4071. 5. Baburajan, J., Prajapati, J. (2014). A review paper on watchdog mechanism in wireless sensor network to eliminate false malicious node detection. Int. J. Res. Eng. Technol. 3(1), 381–384 6. Nakul, P. (2013). A survey on malicious node detection in wireless sensor networks. Int. J. Sci. Res. 2 (1), 691–694 7. Dogra, H., & Kohli, J. (2016). Secure Data Transmission using Cryptography Techniques in Wireless Sensor Networks: A Survey. Indian Journal of Science and Technology, 9(47). 8. Li, S., & Da Xu, L. (2017). Security in Enabling Technologies. Securing the Internet of Things, 109. 9. Nanda, A., Nanda, P., He, X., Jamdagni, A., & Puthal, D. (2017, August). Secure-GLOR: An Adaptive Secure Routing Protocol for Dynamic Wireless Mesh Networks. In Trustcom/BigDataSE/ICESS, 2017 IEEE (pp. 269-276). IEEE. 10. Li, W.T., Feng, T.H., Hwang, M.S. (2014). Distributed detecting node replication attacks in wireless sensor networks: a survey. Int. J. Netw. Secur. 16(5), 323–330 11. Virmani, D., Hemrajani, M., Chandel, S. (2014). Exponential trust based mechanism to detect black hole attack in wireless sensor network. Int. J. Soft Comput. Eng. 4(1), 14–16 12. Lim, S.Y., Choi, Y.H. (2013). Malicious node detection using dual threshold in wireless sensor networks. J. Sens. Actuator Netw. 2, 70–84 		409-411
Authors:	Pratibha Kantanavar													
Paper Title:	A Novel Optimal Routing Protocol for Wireless Ad hoc Network with the aid of Double Encryption Mechanism													
Abstract: Ad hoc network paved way to various researches and application due to its wide acceptance over wired network. The advance has also led to various drawbacks or problems that can result in unauthorized usage of data or in data loss. So secured data transfer has become an important requirement in any Ad hoc network. Various issues exist in Ad hoc network while data transmission and hence it has become a major requirement to develop an efficient routing protocol that can transmit the data securely over the network. So, this paper provides a solution, intend to develop an approach for making the data transmission more secured and feasible. This paper incorporates double encryption scheme to secure the data where we use Hybrid DNA based cryptosystem and blow fish algorithm for authentication of users. Also, we design an efficient optimal routing protocol that makes the transmission secured by reducing various attacks that occur in the network. It provides the security for image transmission over internet effectively. This technique also can be extended in multimedia security over the internet. The network parameters will be approximately judged in order to demonstrate the performance of the scheme we develop.														
Keywords: Geo-Location Oriented Routing (GLOR), Secure-GLOR														
References:														
<ol style="list-style-type: none"> 1. Firdhous, M. F. M. (2016). Security Implementations in Smart Sensor Networks. In Trends in Ambient Intelligent Systems (pp. 187-221). Springer International Publishing. 2. Lu, X., Wang, P., Niyato, D., Kim, D. I., & Han, Z. (2016). Wireless charging technologies: Fundamentals, standards, and network applications. IEEE Communications Surveys & Tutorials, 18(2), 1413-1452. 3. Cho, J. H., Swami, A., & Chen, R. (2011). A survey on trust management for mobile ad hoc networks. IEEE Communications Surveys & Tutorials, 13(4), 562-583. 4. Jawandhiya, P. M., Ghonge, M. M., Ali, M. S., & Deshpande, J. S. (2010). A survey of mobile ad hoc network attacks. International Journal of Engineering Science and Technology, 2(9), 4063-4071. 5. Baburajan, J., Prajapati, J. (2014). A review paper on watchdog mechanism in wireless sensor network to eliminate false malicious node detection. Int. J. Res. Eng. Technol. 3(1), 381–384 6. Nakul, P. (2013). A survey on malicious node detection in wireless sensor networks. Int. J. Sci. Res. 2 (1), 691–694 7. Dogra, H., & Kohli, J. (2016). Secure Data Transmission using Cryptography Techniques in Wireless Sensor Networks: A Survey. Indian Journal of Science and Technology, 9(47). 8. Li, S., & Da Xu, L. (2017). Security in Enabling Technologies. Securing the Internet of Things, 109. 9. Nanda, A., Nanda, P., He, X., Jamdagni, A., & Puthal, D. (2017, August). Secure-GLOR: An Adaptive Secure Routing Protocol for Dynamic Wireless Mesh Networks. In Trustcom/BigDataSE/ICESS, 2017 IEEE (pp. 269-276). IEEE. 10. Li, W.T., Feng, T.H., Hwang, M.S. (2014). Distributed detecting node replication attacks in wireless sensor networks: a survey. Int. J. Netw. Secur. 16(5), 323–330 11. Virmani, D., Hemrajani, M., Chandel, S. (2014). Exponential trust based mechanism to detect black hole attack in wireless sensor network. Int. J. Soft Comput. Eng. 4(1), 14–16 12. Lim, S.Y., Choi, Y.H. (2013). Malicious node detection using dual threshold in wireless sensor networks. J. Sens. Actuator Netw. 2, 70–84 														
74.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Authors:</td> <td>K. Abirami, S. Lavanya, M. Rashmi, V. Roshan</td> </tr> <tr> <td>Paper Title:</td> <td>An Intelligent Guiding System for Trekkers using WUSN</td> </tr> <tr> <td colspan="2">Abstract: To design and develop an automated surveillance system to detect and intimate the presence of animals, monitoring the health parameters of the trekkers and to detect fire in the dense forest. Using sensors and wireless technology that communicate to the base station using wireless communication. In this project the image processing technique is explored for the detection of animals so that any change in pattern then the trekkers and base station are alerted. For the communication process, a wireless underground sensor network is employed which has a lot of interlinked nodes. This is because internet usage is not effective in the dense and reserved forest area. Node to node communication is performed for efficient information sharing with the base station and the communication process for trekkers is carried on with wireless sensor networks thus provides</td> </tr> </table>	Authors:	K. Abirami, S. Lavanya, M. Rashmi, V. Roshan	Paper Title:	An Intelligent Guiding System for Trekkers using WUSN	Abstract: To design and develop an automated surveillance system to detect and intimate the presence of animals, monitoring the health parameters of the trekkers and to detect fire in the dense forest. Using sensors and wireless technology that communicate to the base station using wireless communication. In this project the image processing technique is explored for the detection of animals so that any change in pattern then the trekkers and base station are alerted. For the communication process, a wireless underground sensor network is employed which has a lot of interlinked nodes. This is because internet usage is not effective in the dense and reserved forest area. Node to node communication is performed for efficient information sharing with the base station and the communication process for trekkers is carried on with wireless sensor networks thus provides		412-416						
Authors:	K. Abirami, S. Lavanya, M. Rashmi, V. Roshan													
Paper Title:	An Intelligent Guiding System for Trekkers using WUSN													
Abstract: To design and develop an automated surveillance system to detect and intimate the presence of animals, monitoring the health parameters of the trekkers and to detect fire in the dense forest. Using sensors and wireless technology that communicate to the base station using wireless communication. In this project the image processing technique is explored for the detection of animals so that any change in pattern then the trekkers and base station are alerted. For the communication process, a wireless underground sensor network is employed which has a lot of interlinked nodes. This is because internet usage is not effective in the dense and reserved forest area. Node to node communication is performed for efficient information sharing with the base station and the communication process for trekkers is carried on with wireless sensor networks thus provides														

	<p>warning information to the trekkers. Animal detection based applications have a very important role in many real-life situations and also detection of forest fire in dense forest is hard and fast-spreading. Therefore there must be automation and faster means of communication.</p> <p>Keywords: Arduino, Microcontroller, Sensors, Wireless Sensor Network, Wireless Underground Sensor Network.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Christian A. Hofmann; Robert T. Schwarz; Andreas Knopp, "Measurement and Modeling of the UHF Satellite channel for Animal Tracking Systems," IEEE International Conference on Communications (ICC), doi: 10.1109/ICC.2015.7248437 2. Emrah ,Sim,sek, Bari,s Özyer, Levent Bayındır, Gül,sah Tümüklü Özyer, "Fotokapan Görüntülerinden İnsan-Hayvan Tanıma Human-Animal Recognition in Camera Trap Image," 26th Signal Processing and Communications Applications Conference (SIU), doi: 10.1109/SIU.2018.8404700. 3. Fauzi Othman; Khairunnisa Shazali, "Wireless Sensor Network Applications: A Study in Environment Monitoring System," Procedia Eng., vol. 41, doi: 10.1016/j.proeng.2012.07.302 4. Sachin Sharma, Dharmesh Shah, Rishikesh Bhavsar, Bhavesh Jaiswal, Kishor Bamniya, "Automated Detection of Animals in Context to Indian Scenario," Fifth International Conference on Intelligent Systems, Modelling and Simulation, doi: 10.1109/ISMS.2014.63. 5. Shreyas Ramachandran Srinivasan, Soorya Sridhar, Ganeshaanand Balasubramanian, "Complex Animal Movement Capture and Live Transmission (CAMCALT)," IEEE Technically Sponsored "Annual Region 10 International Conference - TENCON 2018", At Jeju Islands, South Korea , doi: 10.1109/TENCON.2018.8650486. 6. Tarannum Khan; Manju K. Chattopadhyay, "Smart health monitoring system," International Conference on Information, Communication, Instrumentation and Control (ICICIC), doi: 10.1109/ICOMICON.2017.8279142 					
75.	<table border="1"> <tr> <td>Authors:</td> <td>Z.R. Kadyrova, A.P.Purkhanatdinov, Sh.M. Niyazova</td> </tr> <tr> <td>Paper Title:</td> <td>Karakalpakstan Bentonite Clays - Perspective Raw Materials for Obtaining Ceramic Heat-Insulating Materials</td> </tr> </table> <p>Abstract: The article presents the results of a comprehensive study of bentonite clays of the North Jamansay deposit of Karakalpakstan for the production of ceramic heat-insulating materials. The possibility of using this bentonite clay as a result of studying their chemical and mineralogical, fractional compositions and physico-chemical characteristics for ceramic heat-insulating materials for various purposes has been established.</p> <p>Keywords: heat-insulating, ceramics, raw materials, bentonite, clay, composition, chemical, X-ray phase, mineralogical, physico-chemical characteristics, swelling.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Axelrod L.M. Development of production of refractories in the world and in Russia, new technologies. New Refractories. 2011. - №3. - P.106-120. 2. Patent of Russia C04B33/132. published 09/27/2013. Raw mix for the manufacture of building insulation materials. Yu.A. Shchepochkina. 3. Chemical technology of ceramics / Ed. prof. AND I. Guzman. - M.: LLC RIF "Building materials". 2003. - 496 p. 4. Technology of building ceramics:Textbook/I.I. Moroz.- M.:Ecolit, 2011. - 384 p. 5. Onatsky S.P. Production of expanded clay. M.: Stroiizdat, 1987 6. Z.R. Kadyrova, APPurkhanatdinov, Sh.M. Niyazova Investigation of clay raw materials of Karakalpakstan for the production of heat-insulating materials Refractories and technical ceramics, Russia, 2018, №1-2, P.19-24. 7. Kurbaniyazov K.K., Zakirov M.Z. Bentonites of Karakalpakia. Fan. Tashkent. 1979. -160s. 8. Burlakov G.S. Fundamentals of technology of ceramics and artificial porous aggregates. Moscow. High School. 1972. - 424c. 9. Tolkachev S.S. Tables of interplanar distances. L.:Chemistry. 1968. -132 p. 10. ASTM - X-Ray Powder Diffraction Data File American Society for Testing and Materials. Philadelphia. Pa. 1988. 	Authors:	Z.R. Kadyrova, A.P.Purkhanatdinov, Sh.M. Niyazova	Paper Title:	Karakalpakstan Bentonite Clays - Perspective Raw Materials for Obtaining Ceramic Heat-Insulating Materials	417-420
Authors:	Z.R. Kadyrova, A.P.Purkhanatdinov, Sh.M. Niyazova					
Paper Title:	Karakalpakstan Bentonite Clays - Perspective Raw Materials for Obtaining Ceramic Heat-Insulating Materials					
76.	<table border="1"> <tr> <td>Authors:</td> <td>T.LathaMaheswari, S.Anumitha, R.Ajeetha</td> </tr> <tr> <td>Paper Title:</td> <td>Classification of Arrhythmia Conditions using Neural Networks</td> </tr> </table> <p>Abstract: In this paper, we are discussing about a heart disease called Arrhythmia and how it can be identified using the Electrocardiogram. Electrocardiogram (ECG) is a graphical form for electrical activity of cardiac muscle. A healthy human heart beats, 72 times per minute under normal conditions. For every heartbeat the cardiac muscle undergoes specific electrical activity which identifies the pattern in the ECG signal. It consists of PQRST wave which represents heart functions. The patterns of the ECG signal change due to the abnormalities in the heartbeat. The abnormality in the ECG is called Arrhythmia.</p> <p>Keywords:</p> <p>References:</p> <ol style="list-style-type: none"> 1. D. Aykut, Z. CÖMERT, and E. AVCI, "Diagnostic model for identification of myocardial infarction from electrocardiography signals" Journal of Science and Technology, vol.7.2 , pp. 132-139, 2017. 2. K. Das, and R. N. Behera,A Survey on Machine Learning: Concept, Algorithms and Applications," International Journal of Innovative Research in Computer and Communication Engineering, vol. 5, pp. 1301-1309, 2017. 3. M. K. Gautam, and V. K. Giri, "An Approach of Neural Network For Electrocardiogram Classification," APTIKOM Journal on Computer Science and Information Technologies, vol. 1.3, pp. 115- 123. 2016. 4. N. S. Ravi, and P. Thomas, "An Improved Method to Detect Common Cardiac Disorders from ECG Signals using Artificial Neural Network and Fuzzy Logic," IJRECE, vol. 4.3, pp. 24-28, 2016 	Authors:	T.LathaMaheswari, S.Anumitha, R.Ajeetha	Paper Title:	Classification of Arrhythmia Conditions using Neural Networks	421-424
Authors:	T.LathaMaheswari, S.Anumitha, R.Ajeetha					
Paper Title:	Classification of Arrhythmia Conditions using Neural Networks					

77.	Authors:	Suvain Goyal, Vaibhav Somani, S.Sharanya	425-430
	Paper Title:	Reinforcement Learning using Convolutional Neural Network for Game Prediction	
<p>Abstract: The paper presents a Deep learning model for playing computer games with elevated level information utilizing Reinforcement learning learning. The games are activity restricted (like snakes, catcher, air-bandit and so on.). The implementation is progressive in three parts. The first part deals with a simple neural network, the second one with Deep Q network and further to increase the accuracy and speed of the algorithm, the third part consists of a model consisting of convolution neural network for image processing and giving outputs from the fully connected layers so as to estimate the probability of an action being taken based on information extracted from inputs where we apply Q-learning to determine the best possible move. The results are further analysed and compared to provide an overview of the improvements in each methods.</p> <p>Keywords: Deep Q Network, Convolutional Neural Networks , Q-Learning</p> <p>References:</p> <ol style="list-style-type: none"> 1. Ruben Rodriguez Torrado and Philip Bontrager, "Deep Mrs.S.Sharanya, Assistant Reinforcement Learning for general video game AI" Professor, Department of Comp- (6-jun-2018) -uter Science, Kattankulathur, SRM Institute of Science and 2. An Introduction to Convolutional Neural Networks. Keiran O'shea Technology and Ryan Nash.(2015) 3. TensorFlow: A System for Large-Scale Machine Learning by Martin Abadi, Paul Barham (2016) Asynchronous Methods for Deep Reinforcement Learning Volodymyr Mnih, Adrià Puigdomènech 4. Mastering the game of Go with deep neural networks and tree search. David Silver and Aja Huang(2016) 5. Robust Sound Event Classification using Deep Neural Networks. Ian McLoughlin, Haomin Zhang, Zhipeng Xie, Yan Song, and Wei Xiao (2015) 6. General Video Game for 2 Players: Framework and Competition. Raluca D. Gaina, Diego Perez-Liébana, Simon M. Lucas(2016) 7. Wikipedia.AlphaGo Zero[Online]. Available from: https://en.wikipedia.org/wiki/AlphaGoZero. 8. Yen-Chen Lin . Using deep Q-Network to Learn How To Play Flappy Bird. GitHub Dev blog. 9. Tabet Matiisen . Demystifying Deep Reinforcement Learning. Intel blog 10. Tuomas Haarnoja, Student Researcher and Sergey Levine, Faculty Advisor, Robotics at Google. Google AI. Soft Actor-Critic: Deep Reinforcement Learning for Robotics. 			
78.	Authors:	M.Anugraha, S.H.Krishnaveni	431-439
Paper Title:	An Outline on Issues in Efficient Trust Supervision in Mobile Ad Hoc Networks		
<p>Abstract: Mobile Ad hoc Network is an assortment of free hubs that can convey one another. These hubs are self-composed hub, which doesn't have any fixed framework like base station, radio wires, and so forth. The hubs within its range can have an immediate correspondence if not it utilizes a moderate hub for transmitting the information. Each node will act as both host and router. The nodes can join or leave the network anytime and makes the network topology. Network topology is dynamic in nature. Because of the dynamic behavior the detection of trust value is difficult for intermediary node. Trust should be managed in the network i.e., the network has different behaviors like malicious, selfishness, unhealthiness, etc., due to these behaviors the trust of an intermediary node is difficult to calculate. Right now safe routing is performed by the improvement of convention which yields the minimization of trust inclination and boosts the application execution. This study compares different trust management framework and compare the trust level based on the metrics and outlines the issues and future ideas.</p> <p>Keywords: Mobile Ad hoc Network, Dynamic topology, Intermediate nodes.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Antesar M. Shabut, Keshav P. Dahal, Sanat Kumar Bista, and Irfan U. Awan, "Recommendation Based Trust Model with an Effective Defence Scheme for MANETs", IEEE Trans On Mobile Computing, Vol. 14, No. 10, Oct 2015. 2. E. Ayday, H. Lee, and F. Fekri, "An Iterative Algorithm for Trust Management and Adversary Detection for Delay Tolerant Networks," IEEE Transactions on Mobile Computing, DOI: 10.1109/TMC.2011.160, online available, 2011. 3. E. Bulut, Z. Wang, and B. Szymanski, "Cost Effective Multi-Period Spraying for Routing in Delay Tolerant Networks," IEEE/ACM Transactions on Networking, Vol. 18, No. 5, 2010, pp. 1530-1543. 4. F. Bao, I.R. Chen, M. Chang, J.H. Cho, "Hierarchical trust management for wireless sensor networks and its applications to trust-based routing and intrusion detection", IEEE Trans. Netw. Serv. Manage, Vol.9, No.2, pp. 161-183, June 2012. 5. H. Zhu, S. Du, Z. Gao, M. Dong, Z. Cao, "A probabilistic misbehavior detection scheme towards efficient trust establishment in delay-tolerant networks", IEEE Trans. Parallel Distrib. Syst, Vol. 25, No. 1, Jan 2014. 6. Huanyu Zhao, Xin Yang, and Xiaolin Li, "cTrust: Trust Management in Cyclic Mobile Ad Hoc Networks", IEEE Trans On Vehicular Technology, Vol. 62, No. 6, July 2013. 7. I.R. Chen, F. Bao, M. Chang, J.H. Cho, "Dynamic trust management for delay tolerant networks and its application to secure routing", IEEE Trans. Parallel Distrib. Syst. Vol. 25, No. 5, May 2014. 8. P.B. Velloso, R.P. Laufer, D. de O Cunha, O.C. Duarte, G. Pujolle, "Trust management in mobile ad hoc networks using a scalable maturity-based model", IEEE Trans. Netw. Serv. Manage, Vol. 7, No. 3, pp. 172-185, Sep 2010. 9. Yi Ren, Vladimir I and Frank Y. Li, "A Novel Approach to Trust Management in Unattended Wireless Sensor Networks", IEEE Trans On Mobile Computing, Vol. 13, No. 7, July 2014. 10. W. Gao, G. Cao, T.F. La Porta, J. Han, "On exploiting transient social contact patterns for data forwarding in delay-tolerant networks", IEEE Trans. Mob. Comput., Vol.12, No.1, pp.151-165, Jan 2013. 11. Zheng Yan, and Christian Prehofer, "Autonomic Trust Management for a Component-Based Software System", IEEE Trans On 			

- Dependable And Secure Computing, Vol. 8, No. 6, Nov 2011.
12. Zhexiong Wei, Helen Tang, F. Richard Yu, Maoyu Wang, and Peter Mason, "Security Enhancements for Mobile Ad Hoc Networks With Trust Management Using Uncertain Reasoning", IEEE Trans on Vehicular Technology, Vol. 63, No. 9, Nov 2014.
 13. J. Sengathir, R. Manoharan, "Laplace Stieltjes Transform based Conditional Survivability Coefficient Model for mitigating Selfish Nodes in MANETs", Egyptian Informatics Journal, Vol.15, pp.149–157, Aug 2014.
 14. J. Sengathir, R. Manoharan "Exponential Reliability Coefficient based Reputation Mechanism for isolating selfish nodes in MANETs", Egyptian Informatics Journal, Vol.16, pp.231–241, July 2015.
 15. Debjit Das, Koushik Majumder, and Anurag Dasgupta, "Selfish Node Detection and Low Cost Data Transmission in MANET using Game Theory", Procedia Computer Science, Vol.54, pp. 92-101, 2015.
 16. Banoth Rajkumar, Dr.G.Narsimha, "Trust Based Certificate Revocation for Secure Routing in MANET", 2nd International Conference on Intelligent Computing, Communication & Convergence, Vol.92, pp.431-441, 2016.
 17. Mukesh Kumar Garg, Neeta Singh, Poonam Verma. "Fuzzy rule-based approach for design and analysis of a Trust-based Secure Routing Protocol for MANETs", International Conference on Computational Intelligence and Data Science, Vol.132, pp.653-658, 2018.
 18. Saju P John, Philip Samuel, "Self-organized key management with trusted certificate exchange in MANET", Ain Shams Engineering Journal Vol.6, pp.161–170, Mar 2015.
 19. Ahmedin Mohammed Ahmed, Xiangjie Kong, Li Liu, Feng Xia, Saeid Abolfazli, Zohreh Sanaei, Amr Tolba, "BoDMaS: Bio-inspired Selfishness Detection and Mitigation in Data Management for Ad-hoc Social Networks", Ad Hoc Networks, Vol.55, pp. 119–131, Feb 2017.
 20. Jin-Hee Cho, Ananthram Swami, Ing-Ray Chen, "Modeling and analysis of trust management with trust chain optimization in mobile ad hoc networks", Journal of Network and Computer Applications, Vol.35, pp. 1001–1012, May 2012.
 21. Jin-Hee Cho, Ing-Ray Chen, "On the tradeoff between altruism and selfishness in MANET trust management", Ad Hoc Networks, Vol.11, pp.2217-2234, Nov 2013.
 22. Radu-Ioan Ciobanu, Ciprian Dobre, Mihai Dascălu, Ștefan Trăușan-Matu, Valentin Cristea, "SENSE: A collaborative selfish node detection and incentive mechanism for opportunistic networks", Journal of Network and Computer Applications, Vol 41, pp.240-249, May 2014.
 23. Wenjuan Fan, Harry Perros, "A novel trust management framework for multi-cloud environments based on trust service providers", Knowledge-Based Systems, Vol. 70, pp.392-406, Nov 2016.
 24. Byung-Gul Ryu, Jae-Ho Choi, SangKeun Lee, "Impact of node distance on selfish replica allocation in a mobile ad-hoc network", Ad Hoc Networks, Vol. 11, pp. 2187-2202, Nov 2013.
 25. Yating Wang, Ing-Ray Chen, Jin-Hee Cho, Ananthram Swami and Kevin S. Chan, "Trust-based Service Composition and Binding with Multiple Objective Optimization in Service-Oriented Mobile Ad Hoc Networks", IEEE Transactions on Services Computing, Vol 10, pp.660-670, 2017.
 26. Yating Wang, Ing-Ray Chen, Jin-Hee Cho, and Jeffrey J.P. Tsai, "Trust-Based Task Assignment with Multi-Objective Optimization in Service-Oriented Ad Hoc Networks", IEEE Transactions on Network and Service Management, Vol.14, pp.217-232, 2017.
 27. CHEN Xil,3, SUN Liang2, MA JianFeng 3, MA Zhuo, "A Trust Management Scheme Based on Behavior Feedback for Opportunistic Networks", Network Technology and Application, pp.117-129, April 2015.
 28. Zheng Yan, Pu Wang, Wei Feng, "A Novel Scheme of Anonymous Authentication on Trust in Pervasive Social Networking", Information Sciences, 2018.
 29. Anjali Anand; Himanshu Aggarwal; Rinkle Rani, "Partially distributed dynamic model for secure and reliable routing in mobile ad hoc networks", IEEE Journal of Communications and Networks, Vol.18, pp.938-947, 2016.
 30. Malik N. Ahmed, Abdul Hanan Abdullah, Hassan Chizari, Omprakash Kaiwartya, "F3TM: Flooding Factor based Trust Management Framework for secure data transmission in MANETs", Computer and Information Sciences, Vol 29, pp. 269–280, 2017.
 31. Janani V S and Manikandan M S K, "Efficient trust management with Bayesian- Evidence theorem to secure public key infrastructure-based mobile ad hoc networks", EURASIP Journal on Wireless Communications and Networking, Feb 2018.
 32. Bo Yang, Ryo Yamamoto, Yoshiaki Tanaka, "Dempster-Shafer evidence theory based trust management strategy against cooperative black hole attacks and gray hole attacks in MANETs", 16th IEEE International Conference on Advanced Communication Technology, pp.223-232, 2014.
 33. Pragati Dahiya; Rahul Johari, "VAST: Volume adaptive searching technique for optimized routing in mobile ad-hoc networks", IEEE International Advance Computing Conference (IACC), pp.1-6, 2014.
 34. Rajesh Kumar M, Sudhir K. Routray, "Ant Colony Based Dynamic Source Routing For VANET", International Conference on Applied and Theoretical Computing and Communication Technology (iCATccT), pp. 279 – 282, 2016.
 35. Qinghua Shi, Zhong Li, "A Secure QoS Routing Algorithm Based on ACO for Wireless Sensor Network" IEEE International Conference on High Performance Computing and Communications, pp.1241 – 1245, 2013.
 36. Sreevidya R C, Nagaraja G S, "Secure Multicast Routing for Wireless Sensor Networks using ACO-AODV with DHKE Cryptosystem", International Conference on Computing Methodologies and Communication (ICCMC), pp. 733 – 737, 2018.
 37. Zhong Luo, Liuzheng Lu, "An Ant Colony Optimization-based Trustful Routing Algorithm for Wireless Sensor Networks" International Conference on Computer Science and Network Technology (ICCSNT), pp.1128-1131, 2015.
 38. Radha Krishna Bar, Jyotsna Kumar Mandal, "QoS of MANet Through Trust Based AODV Routing Protocol by Exclusion of Black Hole Attack" International Conference on Computational Intelligence: Modeling Techniques and Applications (CIMTA), pp. 530 – 537, 2013.
 39. Sina Shahabi, Mahdieh Ghazvini, "A modified algorithm to improve security and performance of AODV protocol against black hole attack" Wireless Networks, Vol 22, pp 1505–1511, July 2016.
 40. Dipika Sarkar, Swagata Choudhury, "Enhanced-Ant-AODV for optimal route selection in mobile ad-hoc network" Journal of King Saud University – Computer and Information Sciences, 2018.
 41. Deepshikha Dhiman, Praveen Sharma, "Dynamic Source Routing Protocol Using Ant Colony Optimization Mobile Ad Hoc Networks" International Journal of Science, Engineering and Technology Research (IJSETR), Vol 5, Issue 6, June 2016.
 42. Deepak C. Karia; Vaibhav V. Godbole, "New approach for routing in mobile ad-hoc networks based on ant colony optimisation with global positioning system" IET Journals & Magazines, Vol 2, pp 171 – 180, 2013.
 43. Shubhajeet Chatterjee, Swagatam Das, "Ant colony optimization based enhanced dynamic source routing algorithm for mobile Ad-hoc network" Information Sciences, Vol 295, pp 67-90, 2015.

79.	Authors:	Gowtham Mamidiseti, Ankitha A.K., Deepa Sarker, D. Siva Naga Sheshi Reddy, C.H. Prudhvi Raj
	Paper Title:	Secure Outstation Cab Service
	Abstract:	The intent of this thesis was to develop an application that would make booking easier for outstation commutes with guaranteed security. Secure Outstation cab service is an automated prototype which depicts the actual working of an organization that deals with the transport domain. It is a web based platform that allows

customers to book their cabs from their comfort of their own home or office. The proposed Secure Outstation Cab Service ensures that the customers can book the cab as per their requirements by logging on to the website. The main aim of Secure Outstation Cab Service is that the users are provided with security, unlike the other cab service systems. On the other hand, we have also developed a mobile based application which is mainly meant for support system that is whenever a ticket is raised, the support staff would handle the queries related to booking, commute, food availability, company, etc. by the users. The prototype which we have developed clearly shows how the software acts as a SaaS model in delivering business models with the customers. The paper focuses on the objective of the application, its problem statement, our analysis on the research work done, proposed work and methodology followed by the workflow, conclusions and future work.

Keywords: Security code, location triggering, android, firebase, real time database, ticket generation, Google map API, support system.

References:

1. Amit Vashistha, Rohit Goyal, Aman Chaudhary, Prabu S. (2018) „Cab Booking Application“, (IJARIIT) International Journal of Advance Research, Ideas and Innovations in Technology vol. 4, issue 2.
2. Aditya Gupte, Anuja Gaonkar. (2017) „Online Cab Booking System“, (IJSRD) International Journal of Scientific Research and Development vol. 10, issue 10, pp. 679-683.
3. Chunnu Khawas, Pritam Shah (2018) „Application of Firebase in Android App Development-A Study“, International Journal of Computer Applications (0975 – 8887) vol. 179, issue 46.
4. Veena K. Katankar, Dr. V. M. Thakare. (2010) „Short Message Service using SMS Gateway“, (IJCSE) International Journal on Computer Science and Engineering, vol. 02, issue 04, pp. 1487-1491.

Authors: R. Derick, S. Revathi

Paper Title: Ultra High Sensitive Disc Core PCF Chemical Sensor

Abstract: In this article, a PCF sensor is designed and computed to detect chemicals in the refractive indices range of 1.52-1.56. In this proposed design, three and four concentric discs fabricated in the core which provides ultrahigh sensitivity and circular porous cladding pattern confines large fraction of power in core region. This novel proposed design demonstrates ultrahigh relative sensitivity 86.35% and 85.02% for four and three disc models. These sensing discs are filled with different sensing fluid. This proposed PCF design overcomes some experimental challenge such as PCF probe needs some displacement after filling the sensing liquid. These uniform circular sensing discs around the solid core supports better evanescent field matter interaction for sensing application.

Keywords:—Lattice, Spiral, Circular Photonic Crystal Fiber (C-PCF), and Optical waveguide.

References:

1. C. Dou, X. Jing, S. Li, J. Wu, Q. Wang, Low-loss polarization filter at 1.55 μm based on photonic crystal fiber, *Optik (Stuttg)*. 162 (2018) 214–219.
2. F. He, W. Shi, J. Zhang, Z. Hui, F. Zhan, Polarization splitter based on dual-core photonic crystal fiber with tellurite glass, *Optik (Stuttg)*. 164 (2018) 624–631.
3. S.S.A. Obayya, Mohamed Farhat O. Hameed, Nihal F.F. Areed, *Computational Liquid Crystal Photonics: Fundamentals, Modelling and Applications*, John Wiley& Sons, 2016 April.
4. M.F.O. Hameed, S.S.A. Obayya, R.J. Wiltshire, Beam propagation analysis of polarization rotation in soft glass nematic liquid crystal photonic crystal fibers, *Photon. Technol. Lett. IEEE*. 22 (2010) 188–190, <https://doi.org/10.1109/LPT.2009.2037514>.
5. M.F.O. Hameed, A.M. Heikal, S.S.A. Obayya, Novel Passive Polarization Rotator Based on Spiral Photonic Crystal Fiber, *IEEE Photon. Technol. Lett.* 25 (2013) 1578–1581, <https://doi.org/10.1109/LPT.2013.2270564>.
6. M.F.O. Hameed, S.S.A. Obayya, Polarization rotator based on soft glass photonic crystal fiber with liquid crystal core, *J. Light. Technol.* 29 (2011) 2725–2731, <https://doi.org/10.1109/JLT.2011.2163297>.
7. M.F.O. Hameed, S.S.A. Obayya, K. Al-Begain, A.M. Nasr, M. Abo el Maaty, Coupling characteristics of a soft glass nematic liquid crystal photonic crystal fibre coupler, *Optoelectron. IET* 3 (2010) 264–273, <https://doi.org/10.1049/iet-opt.2009.0033>.
9. H. Sakr, R.A. Hussein, M.F.O. Hameed, S.S.A. Obayya, Analysis of photonic crystal fiber with silicon core for efficient supercontinuum generation, *Optik (Stuttg)*. 182 (2019) 848–857.
10. M. Ma, et al., Highly sensitive temperature sensor based on Sagnac interferometer with liquid crystal photonic crystal fibers, *Optik (Stuttg)*. 179 (2019) 665–671.

445-448

80.

Authors: Mamdouh Alenezi, Mohammed Akour

Paper Title: Exploring the Connection between Design Smells and Security Vulnerabilities

Abstract: Software quality aims at having quality as part of all aspects of the developed software. Design smells are considered enemies of the software source code quality. There are verities of design problems with different terminologies. Researchers and practitioners accept it as true that whenever there is a design smell, there is a security issue or concern. In this work, we want to explore the connection between design smells and security vulnerabilities. This work provides experimental evidence about this connection. We conducted an empirical study to explore the connection between design smells and security issues by evaluating four C# open-source systems. We found interesting results that show classes with design smells have more chances of having security issues.

Keywords: Design Smell, Empirical Study, Software Evolution.

449-452

81.

References:

1. Anda, B. (2007, October). Assessing software system maintainability using structural measures and expert assessments. In 2007 IEEE International Conference on Software Maintenance (pp. 204-213). IEEE.
2. Cohen, J. (2013). Statistical power analysis for the behavioral sciences. Routledge.
3. D'Ambros, M., Bacchelli, A., & Lanza, M. (2010, July). On the impact of design flaws on software defects. In 2010 10th International Conference on Quality Software (pp. 23-31). IEEE.
4. D'Ambros, M., Lanza, M., & Pinzger, M. (2007, June). "A Bug's Life" Visualizing a Bug Database. In 2007 4th IEEE International Workshop on Visualizing Software for Understanding and Analysis (pp. 113-120). IEEE.
5. Fontana, F. A., Braione, P., & Zaroni, M. (2012). Automatic detection of bad smells in code: An experimental assessment. *Journal of Object Technology*, 11(2), 5-1.
6. Fowler, M. (2018). Refactoring: improving the design of existing code. Addison-Wesley Professional.
7. Khomh, F., Di Penta, M., & Gueheneuc, Y. G. (2009, October). An exploratory study of the impact of code smells on software change-proneness. In 2009 16th Working Conference on Reverse Engineering (pp. 75-84). IEEE.
8. Mumtaz, Haris, Mohammad Alshayeb, Sajjad Mahmood, and Mahmood Niazi. "An empirical study to improve software security through the application of code refactoring." *Information and Software Technology* 96 (2018): 112-125.
9. Li, W., & Shatnawi, R. (2007). An empirical study of the bad smells and class error probability in the post-release object-oriented system evolution. *Journal of systems and software*, 80(7), 1120-1128.
10. Palomba, Fabio, Marco Zaroni, Francesca Arcelli Fontana, Andrea De Lucia, and Rocco Oliveto. "Smells like teen spirit: Improving bug prediction performance using the intensity of code smells." In 2016 IEEE International Conference on Software Maintenance and Evolution (ICSME), pp. 244-255. IEEE, 2016.
11. Marinescu, R. (2004, September). Detection strategies: Metrics-based rules for detecting design flaws. In 20th IEEE International Conference on Software Maintenance, 2004. Proceedings. (pp. 350-359). IEEE.
12. Moha, N., Gueheneuc, Y. G., Duchien, L., & Le Meur, A. F. (2009). Decor: A method for the specification and detection of code and design smells. *IEEE Transactions on Software Engineering*, 36(1), 20-36.
13. Olbrich, S. M., Cruzes, D. S., & Sjøberg, D. I. (2010, September). Are all code smells harmful? A study of God Classes and Brain Classes in the evolution of three open source systems. In 2010 IEEE International Conference on Software Maintenance (pp. 1-10). IEEE.
14. Rahman, F., Bird, C., & Devanbu, P. (2012). Clones: What is that smell?. *Empirical Software Engineering*, 17(4-5), 503-530.
15. Schumacher, J., Zazworka, N., Shull, F., Seaman, C., & Shaw, M. (2010, September). Building empirical support for automated code smell detection. In Proceedings of the 2010 ACM-IEEE International Symposium on Empirical Software Engineering and Measurement (p. 8). ACM.
16. Silva, A. L., Garcia, A., Reioli, E. J., & De Lucena, C. J. P. (2013, October). Are domain-specific detection strategies for code anomalies reusable? An industry multi-project study. In 2013 27th Brazilian Symposium on Software Engineering (pp. 79-88). IEEE.
17. Silva, L. L., Valente, M. T., & Maia, M. D. A. (2014, April). Assessing modularity using co-change clusters. In Proceedings of the 13th international conference on Modularity (pp. 49-60). ACM.
18. Sjøberg, D. I., Yamashita, A., Anda, B. C., Mockus, A., & Dybå, T. (2012). Quantifying the effect of code smells on maintenance effort. *IEEE Transactions on Software Engineering*, 39(8), 1144-1156.
19. Walker, R. J., Rawal, S., & Sillito, J. (2012, November). Do crosscutting concerns cause modularity problems?. In Proceedings of the ACM SIGSOFT 20th International Symposium on the Foundations of Software Engineering (p. 49). ACM.
20. Wu, R., Zhang, H., Kim, S., & Cheung, S. C. (2011, September). Relink: recovering links between bugs and changes. In Proceedings of the 19th ACM SIGSOFT symposium and the 13th European conference on Foundations of software engineering (pp. 15-25). ACM.
21. Yamashita, A., & Moonen, L. (2012, September). Do code smells reflect important maintainability aspects?. In 2012 28th IEEE international conference on software maintenance (ICSM) (pp. 306-315). IEEE.
22. Zazworka, N., Shaw, M. A., Shull, F., & Seaman, C. (2011, May). Investigating the impact of design debt on software quality. In Proceedings of the 2nd Workshop on Managing Technical Debt (pp. 17-23). ACM.
23. Zhang, M., Hall, T., & Baddoo, N. (2011). Code bad smells: a review of current knowledge. *Journal of Software Maintenance and Evolution: research and practice*, 23(3), 179-202.
24. Zhang, M., Hall, T., Baddoo, N., & Wernick, P. (2008, July). Do bad smells indicate trouble in code?. In Proceedings of the 2008 workshop on Defects in large software systems (pp. 43-44). ACM.
25. Suryanarayana, G., Samarthyam, G., & Sharma, T. (2014). Refactoring for software design smells: managing technical debt. Morgan Kaufmann.
26. Sharma, T., Mishra, P., & Tiwari, R. (2016, May). Designite: a software design quality assessment tool. In Proceedings of the 1st International Workshop on Bringing Architectural Design Thinking into Developers' Daily Activities (pp. 1-4). ACM.
27. Feng, Q., Kazman, R., Cai, Y., Mo, R., & Xiao, L. (2016, April). Towards an architecture-centric approach to security analysis. In 2016 13th Working IEEE/IFIP Conference on Software Architecture (WICSA) (pp. 221-230). IEEE.
28. Yasir Javed, Mamdouh Alenezi, Mohammed Akour, Ahmad Alzyod. Discovering The Relationship Between Software Complexity And Software Vulnerabilities, *Journal of Theoretical and Applied Information Technology* 31st July 2018. Vol.96. No 14
29. Akour, Mohammed, and Izzat Alsmadi. "Vulnerability assessments: a case study of Jordanian universities." 2015 International Conference on Open Source Software Computing (OSSCOM). IEEE, 2015.
30. Alrawais, Layla Mohammed, Mamdouh Alenezi, and Mohammad Akour. "Security Testing Framework for Web Applications." *International Journal of Software Innovation (IJSI)* 6.3 (2018): 93-117.

82.

Authors:

Nikhilkumar Shardoor, Mandapati Venkateswar Rao

Paper Title:

Rainfall Ground Truth VS Prediction and Forecasting using Machine Learning Techniques

Abstract: Rainfall is the major source in the tropical countries like India where Agriculture plays a imperative role in enhancing the economy of the country. Till date, NASA have predicted the rainfall and helped the world to tackle the issues like water management, floods, etc. Besides this prediction, Kerala has experienced the gigantic devastation of the lives, crops, properties and almost everything. Indian Meteorological Department measured the amount of rainfall, considering the features and characteristics of rainfall such as pressure, min max temperature, gust and humidity and so on. Here we are introducing a machine learning approach based on time series analysis: Auto Correlation (ACF) and Partial Auto Correlation (PACF) based on seasonality and trend, to forecast the amount of rainfall in a particular subdivision for a period. To design and implement the system, we have gathered 115 years of data from 1901 to 2015 from Indian Meteorological department. Our proposed model has been tested and validated with respect to ANN model, SVM, linear regression and time series algorithm and it had provided maximum accuracy. Hence our model would help in resource management,

453-459

water management, save lives, assist farmers in crop management activities and ultimately increase the Gross Domestic Product (GDP) leading to the commercial growth of the country. Our model will reduce the pecuniary issues of the country.

Keywords: ACF & PCAF , ANN, Linear Regression, SVM, Time Series Analysis and GDP.

References:

1. Nikhilkumar B Shardoor, Prof. Dr. Mandapati Venkateswar Rao "Analysis of Rainfall Prediction using Machine Learning Data Mining and Satellite Techniques " International Journal of Engineering Technology [UAE], DOI: 10.14419/ijet.v7i4.14125, 2019.
2. Nasimul Hasan, Nayan Chandra Nath, Risul Islam Rasel, "A Support Vector Regression Model for Forecasting Rainfall", Proceeding of International Conference on Electrical Information and Communication Technology (EICT 2015), IEEE, 554 -559.
3. Sandeep Kumar Mohapatra, Anamika Upadhyay, Channabasava Gola, "Rainfall Prediction Based on 100 years of Meteorological Data", International Conference on Computing and Communication Technologies for Smart Nation(IC3TSN),IEEE,2017,162-166.
4. Suhartono,Ria Faulina, Dwi Ayu Lusua, Bambang W. Otak, Sutikno, Heri Kuswanto, "Ensemble Method based on ANFIS-ARIMA for Rainfall Prediction",2012
5. Mary N. Ahuna, Thomas J. Afullo, Akintunde A. Alonge, " Rainfall Rate Prediction Based on Artificial Neural Networks for Rain Fade Mitigation Over Earth-Satellite link", IEFEE Africon 2017 Proceedings, IEEE,2017, 579-584
6. Yajnaseni Dash, S.K. Mishra, B.K. Panigrahi ,"Rainfall Prediction of a Martine State (Kerala), India using SLFN and ELM Techniques", International Conference on Intelligent Computing, Instrumental and Control Technologies(ICICICT), IEEE,2017,1714-1718.
7. Chandreshkhar Thirumalai , M. Laxmi Deepak, K Sri Harsha, K Chaitanya Krishna, " Heuristic Prediction of Rainfall using Machine Learning Techniques", International
8. Meiling Xu, Min Han, Xinying Wang, "Hierarchical Neural Network for Multivariate Time Series Prediction", Proceeding of the 35th Chinese Control Conference (2016), IEEE, 6971-6976
9. Anik Pait, Venkatesan M, "The Open Environment System: Rainfall Prediction Using Naïve Bayesian Algorithm", IOSR Journal of Computer Engineering (IOSR-JCE)e-ISSN:2278-0661,p-ISSN:2278-8727, Volume19, Issue5, Ver.I(Sep.-Oct.2017),PP01-10
10. Minghui Qiu, Peilin xhao, Ke Zhang, Jun Haung, Xing Shi, Wei Chu, Xiaoguang Wang ,"A Short Term Rainfall Prediction using Multitask Convolution Neural Networks", International Conference on Data Mining, IEEE , 2017, 395-404.
11. Farah Yasmeen, Shaheen Hameed, "Forecasting of Rainfall in Pakistan via Sliced Functional Time Series (SFTS)", World Enviornment 2018,8(1): 1-14
12. Junaida Sulaiman, Siti Hajar Wahab , " Heavy Rainfall Forecasting Model Using Artificial Neural Network for Flood Prone Area", Springer Nature Singapore Pte Ltd. ,2018, 68-76.
13. An Introductory Study on Time Series Modelling and Forecasting <https://arxiv.org/ftp/arxiv/papers/1302/1302.6613.pdf>
14. <https://analyticstraining.com/popular-applications-of-linear-regression-for-businesses/>
15. Rainfall Data over 100 years - <https://data.gov.in/catalog/rainfall-india>

Authors: Baimuhamedov M.F., Zhikeyev A.A., Bulaev A.G., Tastemirova Zh.A., Kurmangalieva A.K., Bugubaeva A.U.

Paper Title: Software Analytical Method for Protecting Digital Information

Abstract: Known to date means of information protection does not have a high degree of noise immunity and reliability. This work is related to the development of a more effective way to protect the source information using a software-analytical method based on the Vigenère cipher. The best known and most widely used methods of symmetric encryption are DES and the Vigenère cipher. The Vigenère cipher is a polyalphabetic encryption method for alphabetic text by using key words. The Vigenère cipher requires a single key asked a set b of letters. These sets are signed with the repetition of the message, and then the generated sequence is added back to the plaintext on modul (the power of the alphabet). To achieve this goal we propose to use multiple iteration in which the corresponding algorithms of encryption and decryption consist of successive cycles of the same type of encryption. The developed mathematical model for block coding, as well as methods and algorithms for their decoding. Presented in a modified Vigenère algorithm with the use of a block cipher based on variation of number of iteration with shift key, allows, in contrast to the known algorithms that more reliably protect the data on the Web server.

Keywords: information security, algorithms, encryption, decryption, block coding, Vigenère cipher.

References:

1. A.P. Alferov. "Fundamentals of cryptography the manual" - A.Yu. Zubov, A.S. Kuzmin, A.V. Cheremushkin [Text]//the 2nd issuing corrected and dopopolnenny - M.: Helios of ARV, 2002. - 480 pages, illustrated,
2. S.P. Panasenko. "Encryption algorithms". Special reference manual [Text]//SPb.: BHV-St. Petersburg, 2009. - 576 pages: illustrated.
3. Thomas W. Cusick, Pantelimon Stanica. «Cryptographic Boolean Functions and Applications» [Text] // Academic Press is an imprint of Elsevier 525 B Street, Suite 1900, San Diego, CA 92101-4495, USA Linacre House, Jordan Hill, Oxford OX2 8DP, UK. First edition 2009.
4. A.Yu. Zubov, "Perfect ciphers": [Text]//M.: Helios APB 2003 1 illustrated.
5. Cryptography and encryption algorithms - [Digital resource]//[http://vse-shiiri.ru/.
6. Bruce Schneier. «Applied Cryptography» [Text] // Second Edition: Protocols, Algorithms, and Source Code in C (cloth), Publication Date: 01/01/96.

460-463

84. Authors: Nikunj Navinbhai Patel, Ananya Kapoor, Om Hemantkumar Purohit

Paper Title: Resistive Force Calculation and Battery Pack Configuration using Simulink Model

Abstract: This paper provides a step by step guide for calculation of powertrain unit including the

464-469

configuration of battery pack of a two-wheeler electric vehicle. Based on the design and desired performance of the vehicle, the total resistance force, torque and power is calculated and designed in MATLAB and Simulink, which is essential for selection of electric motor. Knowing the voltage and capacity of an individual cell the configuration of battery pack is calculated and depicted in SOLIDWORKS Computer Aided Design model. A website is developed which is competent to perform the necessary calculations and display the output of the desired performance parameters.

Keywords: Electric vehicle, MATLAB and Simulink, Torque, Computer Aided Design

References:

1. Rabiatuladawiah Abu Hanifah, SitiFauziah Toha, Noor Hazrin Hany Mohamad Hanif and Nor Azam Kamisan, "Electric Motorcycle Modeling for Speed Tracking and Range Travelled Estimation", IEEE Access, vol. 7, no. , pp. 26821-26829, March 2019, doi: 10.1109/ACCESS.2019.2900443.
2. Jiquan Wang, Igo Besselink and Henk Nijimeijer, "Electric vehicle energy consumption modelling and prediction based on road information", World Electric Vehicle Journal, vol. 7,no. , pp. 0447-0458, May2015, doi: 10.3390/wevj7030447
3. YoonCheol JEON, GunGoo LEE, TaeYong KIM, SangWon BYUN, ChoongHo LEE, KyeongBeom CHEONG, HanYong LEE, SooSeok CHOI, KiHo KIM, Jun SONU, "Development of Battery Pack Design for High Power Li-ion Battery Pack of HEV", The World Electric Vehicle Association Journal, vol. 1, no. , pp. 94-99, 2007.
4. Thomas L. Gibson and Nelson A. Kelly, "Solar photovoltaic charging of lithium-ion batteries", Journal of Power Sources, pp. 3928-3932, Dec. 2009, doi: 10.1016/j.jpowsour.2009.12.082.
5. T. Porselvi, Sriharriharan .M. K, Ashok.J , Ajith Kumar .S, "Selection of Power Rating of an Electric Motor for Electric Vehicles", International Journal of Engineering Science and Computing, vol. 7, no. 4, pp. 6469-6472, April 2017.
6. Prof. Rupesh S. Patil, Rahul S. Bharambe, Vaibhav Y. Pawar,Shubham Sugandhi, Kiran S. Thakare, "Analysis of Electric Vehicle Drive Train", International Research Journal of Engineering and Technology, vol. 5, no. 4, pp. 3194-3197, April 2018.
7. Saurabh Chauhan, "Motor Torque Calculation For Electric Vehicle", International Journal of Scientific and Technology, vol. 4, no. 8, pp. 126-127, August 2015.
8. Mrudul Nandedkar, Noopur Wagh and Saurabh Rege, "Optimizing Speed and Range of an Electric Motorcycle", International Journal of Innovative Research in Science, Engineering and Technology, vol. 6, no. 10, pp. 19696-19702, October 2017, doi: 10.15680/IJRSET.2017.0610092
9. Mehrdad Ehsani, Yimin Gao and Ali Emadi, Modern Electric, Hybrid Electric and Fuel Cell Vehicles Fundamentals, Theory and Design, 2nd ed. New York: CRC Press, 2010
10. Srinivas Mutyala, "DESIGN AND DEVELOPMENT OF ELECTRIC MOTORBIKE", International Research Journal Of Engineering and Technology, vol. 6, no. 12, pp. 19-29, December 2019.
11. Vittore Cossalter, Motorcycle Dynamics, 2nd ed. 2006.
12. Andrzej Lebkowski," Electric motorcycle powertrain analysis", Department of Ship Automation Gdynia MaritimeUniversity Gdynia, Poland,andrzejl@am.gdynia.pl.
13. F. LeBel, L. Pelletier, P. Messier and J. P. Trovao, "Battery Pack Sizing Method - Case Study of an Electric Motorcycle," IEEE Vehicle Power and Propulsion Conference (VPPC)", 2016, pp. 1-6, doi: 10.1109/VPPC.2018.8604955.

85.	Authors:	Sakthivel R, Suburaaj R	
	Paper Title:	Fpga Implementation of Precise Convolutional Neural Network for Extreme Learning Machine	
	Abstract:	Feed-forward neural networks can be trained based on a gradient-descent based backpropagation algorithm. But, these algorithms require more computation time. Extreme Learning Machines (ELM's) are time-efficient, and they are less complicated than the conventional gradient-based algorithm. In previous years, an SRAM based convolutional neural network using a receptive – field Approach was proposed. This neural network was used as an encoder for the ELM algorithm and was implemented on FPGA. But, this neural network used an inaccurate 3-stage pipelined parallel adder. Hence, this neural network generates imprecise stimuli to the hidden layer neurons. This paper presents an implementation of precise convolutional neural network for encoding in the ELM algorithm based on the receptive - field approach at the hardware level. In the third stage of the pipelined parallel adder, instead of approximating the output by using one 2-input 15-bit adder, one 4-input 14-bit adder is used. Also, an additional weighted pixel array block is used. This weighted pixel array improves the accuracy of generating 128 weighted pixels. This neural network was simulated using ModelSim-Altera 10.1d and synthesized using Quartus II 13.0 sp1. This neural network is implemented on Cyclone V FPGA and used for pattern recognition applications. Although this design consumes slightly more hardware resources, this design is more accurate compared to previously existing encoders.	470-480
	Keywords:	Convolutional Neural Network (CNN), Extreme Learning Machine (ELM), Field Programmable Gate Array (FPGA), Neuromorphic Computing, Pattern Recognition, Receptive-Field (RF), Very-Large Scale Integration (VLSI)	
	References:	<ol style="list-style-type: none"> 1. Rumelhart DE, Hinton GE, Williams RJ (1986) Learning representations by backpropagation errors. Nature 323:533–536. 2. G.-B. Huang, D. H. Wang, and Y. Lan, —Extreme learning machines: a survey, International Journal of Machine Learning and Cybernetics, vol. 2, no. 2, pp. 107–122, May 2011. 3. G.-B. Huang, Q.-Y. Zhu, and C.-K. Siew, —Extreme learning machine: Theory and applications, Neurocomputing, vol. 70, no. 1–3, pp. 489–501, Dec. 2006. 4. J. V. Frances-Villora, A. Rosado-Munoz, M. Bataller-Mompean, J. Barrios-Aviles, and J. F. Guerrero-Martinez, —Moving Learning Machine towards Fast Real-Time Applications: A High-Speed FPGA-Based Implementation of the OS-ELM Training Algorithm, Electronics, vol. 7, no. 11, p. 308, Nov. 2018. 5. R. Wang, G. Cohen, S. Thakur, J. Tapson, and A. Van Schaik, —An SRAM-based implementation of a convolutional neural network, 2017. 6. C. S. Thakur, R. Wang, T. J. Hamilton, J. Tapson, and A. van Schaik, —A Low Power Trainable Neuromorphic Integrated 	

Circuit That Is Tolerant to Device Mismatch, IEEE Transactions on Circuits and Systems I: Regular Papers, vol. 63, no. 2, pp. 211–221, Feb. 2016.

7. Thakur, Chetan Singh, T. J. Hamilton, R. Wang, J. Tapson, and van Schaik, —A neuromorphic hardware framework based on population coding, 2015 International Joint Conference on Neural Networks (IJCNN), 2015. [Online]. Available: https://www.academia.edu/17633387/A_neuromorphic_hardware_framework_based_on_population_coding.
8. G.-B. Huang, Z. Bai, L. L. C. Kasun, and C. M. Vong, —Local Receptive Fields Based Extreme Learning Machine, IEEE Computational Intelligence Magazine, vol. 10, no. 2, pp. 18–29, May 2015.
9. M. D. McDonnell, M. D. Tissera, T. Vladusich, A. van Schaik, and J. Tapson, —Fast, Simple and Accurate Handwritten Digit Classification by Training Shallow Neural Network Classifiers with the ‘Extreme Learning Machine’ Algorithm, PLOS ONE, vol. 10, no. 8, p. e0134254, Aug. 2015.
10. Y. Lecun, L. Bottou, Y. Bengio, and P. Haffner, —Gradient-based learning applied to document recognition, Proceedings of the IEEE, vol. 86, no. 11, pp. 2278–2324, 1998.
11. R. Wang, C. S. Thakur, G. Cohen, T. J. Hamilton, J. Tapson, and A. van Schaik, —Neuromorphic Hardware Architecture Using the Neural Engineering Framework for Pattern Recognition, IEEE Transactions on Biomedical Circuits and Systems, vol. 11, no. 3, pp. 574–584, Jun. 2017.
12. —Quartus II Handbook Version 13.1, Altera Corporation, 2013
13. —Stratix III Device Handbook, Altera Corporation, 2013.
14. J. Hunter, —receptive field, www.youtube.com. [Online]. Available: <https://www.youtube.com/watch?v=6xs8FF8A1F0>. [Accessed: 26-Feb-2020].
15. S. Decherchi, P. Gastaldo, A. Leoncini, and R. Zunino, —Efficient Digital Implementation of Extreme Learning Machines for Classification, IEEE Transactions on Circuits and Systems II: Express Briefs, vol. 59, no. 8, pp. 496–500, Aug. 2012.
16. A. Krizhevsky, —Learning Multiple Layers of Features from Tiny Images, 2009.
17. L. Fei-Fei, R. Fergus and P. Perona, —Learning generative visual models from few training examples: an incremental Bayesian approach tested on 101 object categories, IEEE. CVPR 2004, Workshop on Generative-Model Based Vision. 2004.
18. Griffin, G. Holub, AD. Perona, P., —The Caltech 256”, Caltech Technical Report.
19. —ImageNet, image-net.org. [Online]. Available: <http://image-net.org/download-images>. [Accessed: 07-Mar-2020].
20. C. E. Cummings, —Simulation and Synthesis Techniques for Asynchronous FIFO Design, SNUG San Jose, 2002.
21. C. Cortes and V. Vapnik, —Support-vector networks, Machine Learning, vol. 20, no. 3, pp. 273–297, Sep. 1995.
22. F. Rosenblatt, Principles of neurodynamics: perceptrons and the theory of brain mechanisms. New York: Spartan Books, 1962.
23. D. Lowe, —Adaptive radial basis function nonlinearities and the problem of generalisation, Proceedings of first IEEE international conference on artificial neural networks, 1989, pp. 171–175.
24. S. Handoko, K. Chee Keong, O. Yew, G. Zhang, and V. Brusica, —Extreme Learning Machine for Predicting HLA-Peptide Binding, LNCS, vol. 3973, pp. 716–721, 2006.
25. X. Chen, Z. Y. Dong, K. Meng, Y. Xu, K. P. Wong, and H. W. Ngan, —Electricity Price Forecasting With Extreme Learning Machine and Bootstrapping, IEEE Transactions on Power Systems, vol. 27, no. 4, pp. 2055–2062, Nov. 2012
26. J. Chen, G. Zheng, and H. Chen, —ELM-MapReduce: MapReduce Accelerated Extreme Learning Machine for Big Spatial Data Analysis, IEEE International Conference on Control and Automation (ICCA), 2013, pp. 400–405.

86.	<p>Authors: M. Parthasarathy, R. Sakthivel</p> <p>Paper Title: Analog based Neuromorphic Systems on Low Power Current Mode Circuits</p> <p>Abstract: Neuromorphic computing is the process used to appliance the neural system models. Formerly, it is referred to as the biological process and later it turned out to be the computing algorithms. Many neuromorphic algorithms represented as the neural figures such as neural spikes, fluctuated graphs, and synapses. The biological nervous system for instance consists of huge number of neurons and they collectively work to encode the stimulus of various senses. In case of neuromorphic computing, automated brain brings in the concept of efficient work carried out through artificial means. The neuromorphic computing thus evolves as a major technological advancement and the need of such technique is the need of the hour in various scientific as well as field applications. In existing techniques, the scaling, power and area are not efficient. This study attempts to address the major issues such as scaling and power. This paper explains the design on a non-spiking network which is used for population coding architecture. The model which is discussed in this paper is based on the analog domain and the current mode circuits are also involved. The input neuron model consists of current direction selector block, current scale block and minimum current block which all comprise to form the neuron model. This paper also brings out the possible outcome of low power constraints. This paper involves 180nm technology with which the power is measured. This paper brings out the simulations of both 180 and 90nm technologies. Apart from current scale block, minimum current block and current direction selector block, there are other blocks such as current splitter block and current mode low pass filter block, where all the circuits work under the sub-threshold condition. The power consumption obtained in the 180 nm technology is 58.838 μW and its energy equivalent is 1.765pJ. Neuromorphic computing is used as an application where the machines are being automated and such machines come with self-thinking capability. Neuromorphic computing design which is evolved from this paper is found to be more power ad energy efficient. The tool used is Cadence Virtuoso.</p> <p>Keywords: Artificial Neural Network, Echo State Network, Spiking Neural Network, Trainable Analog Block.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Elisabetta Chicca, Fabio Stefanini, Chiara Bartolozzi and Giacomo Indiveri, “Neuromorphic Electronic Circuits for Building Autonomous Cognitive Systems,” IEEE (2014). 2. Jurgen Schmidhuber, “Deep Learning in Neural Networks: An overview,” Elsevier (2015). 3. Yiran Chen, Hai Li, Chunpeng Wu, Chang Song, Chuhan Min, Hsin-Pai Cheng, Wei Wen, Xiaoxiao Liu, “Neuromorphic computing’s yesterday, today, and tomorrow an evolutionary view,” Elsevier (2017). 4. Chetan Singh Thakur, Runchun Wang, Tara Julia Hamilton, Jonathan Tapson, and André van Schaik “A Low Power Trainable Neuromorphic Integrated Circuit That Is Tolerant to Device Mismatch,” IEEE (2016). 5. Giovanni Sánchez, Thomas Jacob Koickal, Athul Sripad T A, Luiz Carlos Gouveia, Alister Hamilton, Jordi Madrenas, “Spike-Based Analog-Digital Neuromorphic Information Processing System for Sensor Applications,” IEEE (2013). 6. Tobi Delbruck and Andre van Schaik “Bias current generators with wide dynamic range,” IEEE (2004). 7. Bipin Rajendran and Fabien Alibart, “Neuromorphic Computing based on Emerging Memory Technologies,” IEEE (2016). 	481-490
------------	--	----------------

	<ol style="list-style-type: none"> 8. Yann Leccun, Yoshua Bengio and Geoffrey Hinton, "Deep Learning", Macmillan Publishers (2015). 9. Chetan Singh Thakur, RunchunWang, Saeed Afshar, Gregory Cohen, Tara Julia Hamilton, Jonathan Tapson, and André van Schaik "An Online Learning Algorithm for neuromorphic Hardware Implementation," IEEE (2015) . 10. Chetan Singh Thakur, RunchunWang, Tara Julia Hamilton, Ralph Etienne-Cummings, Jonathan Tapson, and André van Schaik "An Analogue Neuromorphic Co-processor that utilizes Device mismatch for learning applications," IEEE Transactions on Circuits and Systems (2017) . 11. Ning Qiao and Giacomo Indiveri, "Analog circuits for mixed-signal neuromorphic computing architectures in 28nm FD-SOI technology" IEEE (2017). 12. Munir A Al-Absi, Ibrahim A. As-Sabban, "A new highly accurate CMOS current mode Four quadraant multiplier" Springer publications (2014). 13. Sarthak Gupta, Pratik Kumar, Kundan Kumar, Satrajit Chakraborty, Chetan Singh Thakur, "Low power Neuromorphic analog System based on Subthreshold current mode circuits," IEEE (2019). 14. Chetan Singh Thakur, RunchunWang, Tara Julia Hamilton, Jonathan Tapson, and André van Schaik "A neuromorphic hardware framework based on population coding," IEEE (2015) . 15. Sung Woon Cho, Sung Min Kwon, Minkyung Lee, Jeong-Wan Jo, Jae Sang Heo, Yong-Hoon Kim, Hyung Koun Cho, Sung Kyu Parka "Multi-spectral gate-triggered heterogeneous photonic neuro-transistors for Power -efficient brain-inspired neuromorphic computing," IEEE (2019). 16. Kazuki Nakada, Tetsuya Asai, Tetsuya Hirose, Hatsuo Hayashi, Yoshihito Amemiya "A subthreshold CMOS circuit for a piecewise linear neuromorphic oscillator with current-mode low-pass filters," IEEE (2007). 17. Chiara Bartolozzi, Srinjoy Mitra, Giacomo Indiveri, "An ultra low power current mode filter for neuromorphic systems and biomedical signal procesing," IEEE (2006). 18. Giacomo Indiveri, Bernabé Linares-Barranco, et al., "Neuromorphic silicon neuron circuits,," Frontiers in Neuroscience (2011). 19. Andreas G andreou, Kwaabena A Boahen, Philippe A Pouliquen, Aleksandra Pavasovic, Robert E Jenkins and Kim Strohhenn, "Current mode Subthreshold MOS circuits for analog VLSI neural systems" IEEE (1991). 20. Rodrigo Quian Quiroga and Stefano Panzeri, "Extracting information from neuronal populations:information theory and decoding approaches," Macmillan Publishers (2009). 	
	Authors:	S. N. V. Nishanth, S. Suryadev, Ch. Charan Teja Reddy, S. Kalaivani
	Paper Title:	Phase Recognition of Lung Cancer via Steerable Riesz Wavelets with Rf Algorithm
87.	<p>Abstract: Lung cancer is one of the diseases which has a high mortality. If the condition is detected earlier, then it is easier to reduce the mortality rate. This lung cancer has caused more deaths in the world than any other cancer. The main objective is to predict lung cancer using a machine learning algorithm. Several computer-aided systems have been designed to reduce the mortality rate due to lung cancer. Machine learning is a promising tool to predict lung cancer in its early phase or stage, where the features of images are trained using a classification model. Generally, machine learning is used to have a good prediction, but in some models, due to lack of efficient feature extraction value, the training has not been done more effectively; hence the predictions are poor. In order to overcome this limitation, the proposed covariant texture model utilizing the steerable Riesz wavelets feature extraction technique to increase the effectiveness of training via the Random Forest algorithm. In this proposed model, the RF algorithm is employed to predict whether the nodule in the image is benign or malignant ii) to find the level of severity (1 to 5), if it is a malignant nodule. Our experiment result can be used as a tool to support the diagnosis and to analyze at an earlier stage of cancer to cure it.</p> <p>Keywords: Benign nodule, Malignant nodule, Random Forest, Random Walker, Steerable Riesz wavelets.</p> <p>References:</p> <ol style="list-style-type: none"> 1. N.Camarlinghi, ``Automatic detection of lung nodules in computed tomography images: Training and validation of algorithms using public research databases," Eur. Phys. J. Plus, vol. 128, no. 9, p. 110, Sep. 2013. 2. R. L. Siegel, K. D. Miller, and A. Jemal, ``Cancer statistics, 2016," CA, Cancer J. Clin., vol. 66, no. 1, pp. 730, Jan. 2016 3. D. Kumar, A. Wong, and D. A. Clausi, ``Lung nodule classification using deep features in CT images," in Proc. 12th Conf. Comput. Robot Vis. (CRV) Jun. 2015, pp. 133138. 4. Zakarie Hashi, Kalamazoo, MI.Rabia Almamlook "Lung Cancer Survival Prediction Using Random Forest-Based Decision Tree Algorithms,".2017 5. W. Shen et al., ``Multi-crop convolutional neural networks for lung nodule malignancy suspiciousness classification," Pattern Recognit., vol. 61, pp. 663673, Jan. 2017. 6. Han, F., Wang, H., Zhang, G., et al.: 'Texture feature analysis for computer-aided diagnosis of pulmonary nodules', <i>J. Digit. Imaging</i>, 2015, 28, pp. 99– 115 7. Hyo Kyung Lee, FengJu, , Raymond U. Osarogiagbon, Nicholas Faris, Xinhua Yu, FedoriaRugless, Shan Jiang, and JingshanLi " A System-Theoretic Method for Modeling, Analysis, and Improvement of Lung Cancer Diagnosis-to-Surgery Process," 2017 8. Xiang-Xia Li1, Bin Li1, Lian-Fang Tian1, Li Zhang "Automatic benign and malignant classification of pulmonary nodules in thoracic computed tomography based on RF algorithm," 1. 9. Adrien Depeursinge, Antonio Foncubierta-Rodriguez "Rotation–Covariant Texture Learning Using Steerable Riesz Wavelets," 10. "Skin Disease Diagnosis System using Image Processing and Data Mining." R. S. Gound ,Priyanka S. Jyoti B., India. 	491-496
88.	Authors:	Keshav Kumar Jha, B.S. Pabla
	Paper Title:	A Real Time Engine Oil Monitoring System for Diagnosis of Lubricant using IoT Network
	<p>Abstract: In the modern days, Internet of Things (IoT) is smart communicating approach and creates an energetic impression in future of automobile industry. The advancement of IoT innovation in each field can be joined with the rising occasions setting off a requirement for a superior human way of life and its applications are vast and innumerable. One such application can be implied for the automobile industry to real time monitor the engine lubricant because in India, automobile mechanics still use conventional techniques of engine lubricant supervision. So in this paper, we present, an IoT technology based a real time Engine Oil Monitoring (EOM) System for diagnosis of engine lubricant. The main objective of this research paper is to reduce the human effort and to provide a smart sensing approach in automobile industry for maintaining real time engine oil conditions. EOM system is designed with the help of Arduino Nano with sensor devices named as Light Dependent Resistor</p>	497-505

(LDR) sensor for oil quality, LM35-Temperature sensor for temperature and Ultrasonic Sensor for oil level measurement in engine. Real time testing results shown in the connected display unit and experimental results of proposed EOM system using IoT network provides an efficient diagnosis results. EOM system is working properly that is observed in the experimental analysis section for two different scenario such as 10W-50 4T Scooter Engine Oil-Honda Activa 125 (1L) and 10W-30 Synthetic Engine Oil for Petrol Cars (3.5 L).

Keywords: EOM System, Sensors, LED Display, Ultrasonic Sensor, LDR, Engine Oil, IoT Network.

References:

1. Deepak Koranga, —IoT based Condition Monitoring Systeml, Master’s Thesis, Czech Technical University, Dept of Cybernetics, 2017.
2. Zhu, J., He, D., & Bechhoefer, E. (2013). Survey of lubrication oil condition monitoring, diagnostics, and prognostics techniques and systems. *Journal of chemical science and technology*, 2(3), 100-115.
3. Jakoby, B., Scherer, M., Buskies, M., & Eisenschmid, H, —An automotive engine oil viscosity sensorl, *IEEE Sensors Journal*, vol. 3, no. 5, pp. 562-568, IEEE, 2003.
4. Matthew Paul, Appleby. "Wear debris detection and oil analysis using ultrasonic and capacitance measurements." PhD diss., University of Akron, 2010.
5. Agoston, A., Ötsch, C. and Jakoby, B,—Viscosity sensors for engine oil condition monitoring—Application and interpretation of resultsl, *Sensors and Actuators A: Physical*, vol. 121, no. 2, pp.327-332, Elsevier, 2005.
6. A Rajesh Kanna ,Purushotham.T, Sreerag K S ,Sooraj P S , Vipin Raj R A , Arun K sudheer, —Experimental Analysis of Flash Point of Lubricating oill, *International Refereed Journal of Engineering and Science*, vol. 6,no. 4, pp. 53-55, 2017.
7. Pérez, A.T. and Hadfield, M., —Low-cost oil quality sensor based on changes in complex permittivityl, *Sensors*, vol. 11, no.11, pp. 10675-10690, Molecular Diversity Preservation International, 2011.
8. Rajakumar, G., Kumar, T. A., Samuel, T. A., & Kumaran, E. M, —IoT Based Milk Monitoring System For Detection Of Milk Adulterationl, *International Journal of Pure and Applied Mathematics*, vol. 118, no. 9, pp. 21-32, 2018.
9. Kalyani Mandekar , Purva Apte, Ketki Chaudhari , Minza Ansari, —Iot Based Trasnformer Parameter Monitoringl, *Ingnternational Journal of Electrical and Electronics Engineer*, vol. 9, no. 1, pp. 359-364, 2017.
10. Rajakumar, G., Kumar, T. A., Samuel, T. A., & Kumaran, E. M, —IoT Based Milk Monitoring System For Detection Of Milk Adulterationl, *International Journal of Pure and Applied Mathematics*, vol. 118, no. 9, pp. 21-32, 2018.
11. Goyal D, Chaudhary A, Dang RK, Pabla BS, Dhami SS, —Condition Monitoring of Rotating Machines: A Reviewl, *World Scientific News*, vol. 113, pp. 93-108, 2018.
12. Besser, C., Dörr, N., Novotny-Farkas, F., Varmuza, K. and Allmaier, G, —Comparison of engine oil degradation observed in laboratory alteration and in the engine by chemometric data evaluationl, *Tribology International*, vol.65, pp.37-47, Elsevier, 2013.
13. Zolkapli, M., H. Hashim, M. F. M. Idros, F. N. Osman, and M. Z. Adam. "Optical sensor system for quality performance of motorcycle engine due to mileage factor." In 2012 IEEE Symposium on Industrial Electronics and Applications, pp. 176-180, IEEE, 2012.
14. Siahaan, Andysah Putera Utama & Silitonga, Nogar& Iqbal, Muhammad &Lubis, Solly&Fitriani, Wirda&Ramadhan, Zuhri&Tharo, Zuraidah&Rusiadi, Rusiadi&Hidayat, Rahmat&AzwarHasibuan, Hasrul&Nasution, Muhammad &Ikhwan, Ali &Azhar, Zulfi, —Arduino Uno-based water turbidity meter using LDR and LED sensors,l *International Journal of Engineering and Technology*, vol. 7, no. 4, pp. 2113-2117, 2018.
15. Mujahid, A. and Dickert, F.L., —Monitoring automotive oil degradation: analytical tools and onboard sensing technologiessl, *Analytical and bioanalytical chemistry*, vol. 404, no. 4, pp.1197-1209, Springer, 2012.
16. Zolkapli, M., H. Hashim, M. F. M. Idros, F. N. Osman, and M. Z. Adam. "Optical sensor system for quality performance of motorcycle engine due to mileage factor." In 2012 IEEE Symposium on Industrial Electronics and Applications, pp. 176-180, IEEE, 2012.
17. Raposo, H., Farinha, J.T., Ferreira, L. and Galar, D, —Dimensioning reserve bus fleet using life cycle cost models and condition based/predictive maintenance: a case studyl, *Public Transport*, pp.1-22, Springer, 2018.
18. Deepak Koranga, —IoT based Condition Monitoring Systeml, Master’s Thesis, Czech Technical University, Dept of Cybernetics, 2017.
19. Arduino, —Arduino Controlled LM35 Temperature Sensorl, 2019. [Online]. Available: <https://www.arduinoing.com/index.php/2019/04/19/arduino-controlled-lm35-temperature-sensor>. [Last Accessed: 10 January, 2019].
20. ElectronicWings, —Sensors and Modulesl, 2019. [Online]. Available: <https://www.electronicwings.com/sensors-modules/lm35-temperature-sensor>. [Last Accessed: 10 January, 2019].
21. Xprt environmental, —Oil Samplingl, 2017. [Online].Available: <https://www.environmental-expert.com/articles/oil-sampling-best-practices-part-2-689553> [Last Accessed: 7 Febrauray, 2019].
22. A J. Zhu, D. He, E. Bechhoefer, —Survey of lubrication oil condition monitoring, diagnostics, and prognostics techniques and systemsl, in *Journal of chemical science and technology*, July 2013,Vol.2 Iss 3,pp.100-115.
23. Sejkorová, Marie, and Josef Glos. "Analysis of degradation of motor oils used in Zetor tractors", *Act Universitatis Agriculturae ET Silviculturae Mendelianae Brunensis*, vol. 65, no. 1, pp.179-187, 2017.
24. Soleimani, Mostafa, et al. "Base oil oxidation detection using novel chemical sensors and impedance spectroscopy measurements." *Sensors and Actuators B: Chemical*, vol. 199, pp. 247-258, Elsevier, 2014.
25. B. Jakoby, M. Scherer, M. Buskies, H. Eisenschmid, —An automotive engine oil viscosity sensorl, *IEEE Sensors Journal*, vol. 3, No. 5, oct. 2003, pp. 562–568.
26. Yimin Moa , Junping Wangb * , Jun Wangc , Tuo Dongd and Wenjun Zhoue, —Experimental Research on the Impact of Lubricating Oils on Engine Friction and Vehicle Fuel Economyl, In 3rd International Conference on Material, Mechanical and Manufacturing Engineering, pp. 1607-1612, 2015.

89.	Authors:	D. Mabuni
	Paper Title:	A Novel Impurity Measuring Technique for Decision Tree Learning in Machine Learning

Abstract: Decision tree classification is one of the most powerful data classification techniques in machine learning, data mining, big data analytics and split functionality is a crucial and inherently associated integral part of the decision tree learning. Many split similarity measures are proposed to determine the best split attribute and then partitioning the node data in decision tree learning accordingly. A new impurity measuring based split technique called (IMDT) for decision tree learning is proposed in this paper and it is used in obtaining experimental results. Many UCI machine learning dataset are employed in experimentation. The algorithm C4.5

is the most using data classification algorithm. The results obtained with the proposed approach are outperformed than the many existing decision tree classification algorithms in particular C4.5 decision tree algorithm.

Keywords: Big data analytics, impurity measure, machine learning, split functionality and split attribute.

References:

1. A. Desai, S. Chaudhary, Distributed decision tree v.2.0, in: 2017 IEEE International Conference on Big Data (Big Data). Presented at the 2017 IEEE International Conference on Big Data (Big Data), 2017, pp. 929–934.
2. Cherfi, A., Noura, K., and Ferchichi, A. (2018). Very Fast C4.5 Decision Tree Algorithm. Journal of Applied Artificial Intelligence, 2018, 32(2), pp. 119-139.
3. F. Chen, X. Li, and L. Liu, Improved C4.5 decision tree algorithm based on sample selection, in 2013 IEEE 4th International Conference on Software Engineering and Service Science, 2013, pp. 779–782.
4. I. D. Mienye, Y. Sun, Z. Wang, “Prediction performance of improved decision tree-based algorithms”, ELSEVIER, ScienceDirect, Procedia Manufacturing 35 (2019) 698–703.
5. K. Adhatrao, A. Gaykar, A. Dhawan, R. Jha, and V. Honrao, Predicting Students’ Performance using ID3 and C4.5 Classification Algorithms. International Journal of Data Mining & Knowledge Management Process (IJDMP), 2013, 3(5).
6. L. Fang, H. Jiang, and S. Cui, An improved decision tree algorithm based on mutual information, in 2017 13th International Conference on Natural Computation, Fuzzy Systems and Knowledge Discovery (ICNC-FSKD), 2017, pp. 1615–1620.
7. L. Yi-bin, W. Ying-ying, and R. Xue-wen, Improvement of ID3 algorithm based on simplified information entropy and coordination degree, in 2017 Chinese Automation Congress (CAC), 2017, pp. 1526–1530.
8. M. A. Muslim, S. H. Rukmana, E. Sugiharti, B. Prasetyo, and S. Alimah, Optimization of C4.5 algorithm-based particle swarm optimization for breast cancer diagnosis, J. Phys.: Conf. Ser., 983(1), p. 012063, 2018.
9. M. A. Muslim, A. Nurzahputra, and B. Prasetyo, Improving accuracy of C4.5 algorithm using split feature reduction model and bagging ensemble for credit card risk prediction, in 2018 IEEE International Conference on ICT (ICOIACT), 2018, pp. 141–145.
10. V. K. Soni and S. Pawar, Emotion based social media text classification using optimized improved ID3 classifier, in 2017 International Conference on Energy, Communication, Data Analytics and Soft Computing (ICECDS), 2017, pp. 1500–1505.
11. W. Man, Y. Ji, and Z. Zhang, Image classification based on improved random forest algorithm, in 2018 IEEE 3rd International Conference on Cloud Computing and Big Data Analysis (ICCCBDA), 2018, pp. 346–350.
12. Z. Yuan, C. Wang, An improved network traffic classification algorithm based on Hadoop decision tree, Presented at the 2016 IEEE International Conference of Online Analysis and Computing Science (ICOACS), 2016, pp. 53–56.
13. Z. Wang, Y. Liu, and L. Liu, A new way to choose splitting attribute in ID3 algorithm, in 2017 IEEE 2nd Information Technology, Networking, Electronic and Automation Control Conference (ITNEC), 2017, pp. 659–663.

90.	Authors:	Khushbu, R.K Bathla	
	Paper Title:	Se-Eaodv to Detect and Prevent Black Hole Attack in Manets	
	Abstract:	The security of the data which is transferred from source to destination is of prime importance in the mobile ad hoc network (MANET) or any kind of network to be very precise. If the data gets lost then the entire purpose of deploying and creating the network fails. Mobile ad hoc networks suffer from various attacks out of which black hole attack is considered the most dangerous one because in this attack the venomous node release all the packets received by it. The authors in EAODV has used the concept of fake route request packets to identify the black hole nodes in the grid. The proposed technique detects the malicious black hole node using the sequence numbers. The performance of the network has been examined based on end to end delay, packet delivery ratio, detection time, throughput and remaining energy. These parameters have shown improvement over the existing scheme.	513-517
	Keywords:	MANETs, Black hole attack, Sequence number, EAODV, RREQ, PDR	
	References:	<ol style="list-style-type: none"> 1. Aarti, Dr SS. Tyagi, “Study Of Manet: Characteristics, challenges, application and security attacks”, International Journal of Advanced Research in Computer Science and Software Engineering 3.5, vol. 3, no. 5, pp. 252-257, May-2013. 2. Shendurkar, Ms Ankita M., and Nitin R. Chopde. "A Review of Black Hole and Worm Hole Attack on AODV Routing Protocol in MANET." International Journal of Engineering Trends and Technology (IJETT), vol. 9, no. 8, pp. 394-399, March-2014. 3. Sandeep Lalasaheb Dhende, S. D. Shirbahadurkar, S. S. Musale, Shridhar K. Galande, “A survey on black hole attack in mobile ad hoc networks”, 2018 4th International Conference on Recent Advances in Information Technology (RAIT). 4. Avni Tripathi, Amar Kumar Mohapatra, “Mitigation of Blackhole attack in MANET”, 2016 8th International Conference on Computational Intelligence and Communication Networks (CICN). 5. Khemariya, Neelam, Ajay Khunteta, and Krishna Kumar Joshi. "A Robust Technique for Secure Routing against Blackhole attack in AODV Protocol for MANETs." International Journal of Scientific & Engineering Research, vol. 4, no. 6, pp. 1179-1189, June-2013. 6. Taher Delkesh, Mohammad Ali Jabraeli Jamali, “EAODV: detection and removal of multiple black hole attacks through sending forged packets in MANETs”, Journal of Ambient Intelligence and Humanized Computing, March 2018. 7. J. Manoranjini, A. Chandrasekar & S. Jothi, “Improved QoS and avoidance of black hole attacks in MANET using trust detection framework”, Computational Intelligence and Capsule Networks, Jun 2019. 8. Rushdi A. Hamamreh, “Protocol for Multiple Black Hole Attack Avoidance in Mobile Ad Hoc Networks”, Recent Advances in Cryptography and Network Security, October 31st 2018. 9. Mohamed Abd-El-Azim, Hossam EL-Din Salah, and Menas Ebrahim, “IDS against Black-Hole Attack for MANET”, International Journal of Network Security, Vol.20, No.3, PP.585-592, May 2018. 10. Meenanshu Gupta, Varun Jasuja, “Improvisation of QOS Parameters by Detecting and Preventing the Black Hole Attacks using Artificial Intelligence Techniques”, International Journal for Research in Applied Science & Engineering Technology (IJRASET), Volume 6 Issue II, February 2018. 11. Qussai M. Yaseen, Monther Aldwairi, “An Enhanced AODV Protocol for Avoiding Black Holes in MANET”, Procedia Computer Science, Volume 134, 2018, Pages 371-376. 12. Veerpal Kaur, Sempel Rani, “A Hybrid and Secure Clustering Technique for Isolation of Black hole Attack in MANET”, International Journal of Advanced Research in Computer Engineering & Technology (IJARCET) Volume 7, Issue 3, March 2018. 13. Rashmi, Ameeta Seehra, “Detection and Prevention of Black-Hole Attack in MANETS”, International Journal of Computer 	

91.	Authors:	N Kannan, SK Lishanth, S Sajid Hussain, Ashutosh Gauda	518-523
	Paper Title:	Analysis on fog Network for Small Cell Network using Neuro Fuzzy	
Abstract:		<p>In this manuscript we are establishing a new, remote backhaul system for small cell systems based on a powerful joint effort of Main Stations (MSs) that we call Fog-Radio Access Network (F-RAN) backhaul technology. By using fog, our proposed technique gives MSs the possibility to organize and methodology the signs obtained in various ways that can effectively extend the transmission limit of the backhaul network. We first model an F-RAN initiated and three backhauling procedures, explicitly Direct, DF, and Cloud-RAN (C-RAN), to be enforced. At this point we evaluate and think about the achievement of these methodologies. Numerical findings show that our proposed technique provides cell borders with the highest throughput to customers in most different territories and retains a comparable display. F-RAN thus performs better for minimized small cell systems with low backhaul channels than any other strategy.</p>	
Keywords:		backhaul techniques, fog computing, neuro fuzzy, small cell networks, F-RAN, Dynamic MSs.	
References:		<ol style="list-style-type: none"> 1. J. G. Andrews, S. Buzzi, W. Choi, S. V. Hanly, A. Lozano, A. C. K. Soong, and J. C. Zhang, "What will 5g be?" IEEE Journal on Selected Areas in Communications, vol. 32, no. 6, pp. 1065–1082, June 2014. 2. M. Jaber, M. A. Imran, R. Tafazolli, and A. Tukmanov, "5g backhaul challenges and emerging research directions: A survey," IEEE Access, vol. 4, pp. 1743–1766, 2016. 3. M. Peng, Y. Li, J. Jiang, J. Li, and C. Wang, "Heterogeneous cloud radio access networks: a new perspective for enhancing spectral and energy efficiencies," IEEE Wireless Communications, vol. 21, no. 6, pp. 126–135, December 2014. 4. T. Q. S. Quek, G. de la Roche, I. Gven, and M. Kountouris, Small Cell Networks: Deployment, PHY Techniques, and Resource Management. New York, NY, USA: Cambridge University Press, 2013. 5. J. Hoydis, M. Kobayashi, and M. Debbah, "Green small-cell networks," IEEE Vehicular Technology Magazine, vol. 6, no. 1, pp. 37–43, March 2011. 6. S. C. Hung, H. Hsu, S. Y. Lien, and K. C. Chen, "Architecture harmonization between cloud radio access networks and fog networks," IEEE Access, vol. 3, pp. 3019–3034, 2015. 7. J. Bartelt, P. Rost, D. Wubben, J. Lessmann, B. Melis, and G. Fettweis, "Fronthaul and backhaul requirements of flexibly centralized radio access networks," IEEE Wireless Communications, vol. 22, no. 5, pp. 105–111, October 2015. 8. T. Naveh, "Mobile backhaul: Fiber vs. microwave," Ceragon White Paper, vol. 1, pp. 1–11, 2009. 9. X. Ge, H. Cheng, M. Guizani, and T. Han, "5g wireless backhaul networks: challenges and research advances," IEEE Network, vol. 28, no. 6, pp. 6–11, Nov 2014. 10. A. Samukic, "Umts universal mobile telecommunications system: development of standards for the third generation," in IEEE GLOBECOM 1998 (Cat. NO. 98CH36250), vol. 4, 1998, pp. 1976–1983 vol.4. 11. P. Baracca, S. Tomasin, and N. Benvenuto, "Backhaul rate allocation in uplink sc-fdma systems with multicell processing," IEEE Transactions on Wireless Communications, vol. 13, no. 3, pp. 1264–1273, March 2014. 12. Y. Lin, L. Shao, Z. Zhu, Q. Wang, and R. K. Sabhikhi, "Wireless network cloud: Architecture and system requirements," IBM Journal of Research and Development, vol. 54, no. 1, pp. 4:1–4:12, January 2010. 13. A. Checko, H. L. Christiansen, Y. Yan, L. Scolaris, G. Kardaras, M. S. Berger, and L. Dittmann, "Cloud ran for mobile networks a technology overview," IEEE Communications surveys & tutorials, vol. 17, no. 1, pp. 405–426, 2015. 14. C. L. I, C. Rowell, S. Han, Z. Xu, G. Li, and Z. Pan, "Toward green and soft: a 5g perspective," IEEE Communications Magazine, vol. 52, no. 2, pp. 66–73, February 2014. 15. C. Ran, S. Wang, and C. Wang, "Balancing backhaul load in heterogeneous cloud radio access networks," IEEE Wireless Communications, vol. 22, no. 3, pp. 42–48, June 2015. 16. M. Peng, S. Yan, K. Zhang, and C. Wang, "Fog-computing-based radio access networks: issues and challenges," IEEE Network, vol. 30, no. 4, pp. 46–53, July 2016. 17. C. C. W. K. T. Biermann, L. Scalia and H. Karl, "How backhaul networks influence the feasibility of coordinated multipoint in cellular networks [accepted from open call]," IEEE Communications Magazine, vol. 51, no. 8, pp. 168–176, August 2013. 18. T. Biermann, L. Scalia, C. Choi, W. Kellerer, and H. Karl, "How backhaul networks influence the feasibility of coordinated multipoint in cellular networks [accepted from open call]," IEEE Communications Magazine, vol. 51, no. 8, pp. 168–176, 2013. 19. J. Ghimire and C. Rosenberg, "Revisiting scheduling in heterogeneous networks when the backhaul is limited," IEEE Journal on Selected Areas in Communications, vol. 33, no. 10, pp. 2039–2051, Oct 2015. 20. L. Zhou and W. Yu, "Uplink multicell processing with limited backhaul via per-base-station successive interference cancellation," IEEE Journal on Selected Areas in Communications, vol. 31, no. 10, pp. 1981–1993, October 2013. 21. J. Zhao, T. Q. Quek, and Z. Lei, "Heterogeneous cellular networks using wireless backhaul: Fast admission control and large system analysis," IEEE Journal on Selected Areas in Communications, vol. 33, no. 10, pp. 2128–2143, 2015. 	
92.	Authors:	Devireddy Sathish, Gajangi Arun Kumar, Chowdary Vinay Kumar	524-528
Paper Title:	Instantaneous Symmetrical Component Theory (ISCT) Controller for Mitigation of Harmonics in Micro-grid System		
Abstract:		<p>Now a days, the usage of non-linear loads are increased rapidly which increased the power quality (PQ) problems in electric power system like voltage sag and swell, harmonics, etc., in the mentioned problems, one of the major significant PQ problem is the harmonics. This paper proposes the power quality improvement by using Shunt Active Power Filter (SAPF) in AC Electric supply System feeding 3-phase balanced non-linear load. For reduction of harmonics in the system, the Instantaneous Symmetrical Component Theory (ISCT) based controller along with the other controllers named PI controller and Hysteresis current controller are which helps in the micro-grid system. In this, hysteresis current control compares the difference of compensating current, load current with filter current of DSTATCOM. In the proposed method, DSTATCOM has shown good performance in the system to eliminate harmonic component. The system performance is simulated in the MATLAB environment and it is evaluated by calculating the source current Total Harmonic Distortion (THD).</p>	
Keywords:		ISCT; DSTATCOM; PI Controller; Hysteresis Control; Total Harmonic Distortion (THD)	

References:

1. H.Akagi, Y.Kanazawa and A.Nabae, "Instantaneous reactive power compensators comprising switching devices without energy storage components," IEEE Transactions on Industry Applications, V.No.3, pp. 625–630, 1984.
2. Bhim Singh, Kamal Al-Haddad, and Ambrishchandra, "A review of Active power filters for power quality improvement", IEEE transactions on Industrial Electronics, VOL.46, NO. 5, October 1999.
3. Habrouk E., Darwish M., Mehta M.K., "Active power filters: review", IEE Proceedings on Electric Power applications, 147: 403-413, 2000.
4. L.S. Czarnecki, "An overview of methods of harmonic suppression in distribution systems", In Power Engineering Society Summer Meeting, 2000. IEEE, Vol. 2, pp. 800-805, 2000.
5. A.Ghosh and G.Ledwich, "Load compensating DSTATCOM in weak ac systems," IEEE Transactions on Power Delivery, vol. 18, no. 4, pp. 1302–1309, Oct. 2003.
6. D.Chen and S.Xie, "Review of the control strategies applied to active power filters", In Electric Utility Deregulation, Restructuring and Power Technologies, (DRPT 2004). Proceedings of the IEEE International Conference on, Vol.2, pp.666-670, April 2004.
7. Jou H.L., Wu K.D., Wu J.C., Chiang W., "A three-phase four-wire power filter comprising a three-phase three-wire active power filter and a zig-zag transformer", IEEE Transactions on Power Electronics 23: 252-259, 2008.
8. Massoud, Ahmed M., Shehab Ahmed, and Ayman S. Abdel-Khalik. "Active Power Filter", Power Electronics for Renewable Energy Systems Transportation and Industrial Applications, 2014.

93.

Authors:

Roopali Gupta, Toran Verma

Paper Title:

Tomato Leaf Disease Detection using Back Propagation Neural Network

Abstract: Most of the Indian economy rely on agriculture, so identifying any diseases crop in early stages is very crucial as these diseases in plants causes a large drop in the production and economy of the farmers and therefore, degradation of the crop which emphasize on the early detection of the plant disease. These days, detection of plant diseases has become a hot topic in the area of interest of the researchers. Farmers followed a traditional approach for identifying and detecting diseases in plants with naked eyes, which didn't help much as the disease may have caused much damage to the plant. Tomato crop shares a huge portion of Indian cuisine and can be prone to various Air-Bourne and Soil-Bourne diseases. In this paper, we tried to automate the Tomato Plant Leaf disease detection by studying the various features of diseased and healthy leaves. The technique used is pattern recognition using Back-Propagation Neural network and comparing the results of this neural network on different features set. Several steps included are image acquisition, image pre-processing, features extraction, subset creation and BPNN classification.

529-538

Keywords: Feature Extraction; Image Processing; Tomato Disease Detection; GLCM; BPNN.

References:

1. Adhikari, S., Kumar, S., Shrestha, B., Baiju, B. and Kumar, S. (2018). Tomato Plant Diseases Detection System Using Image Processing. Kantipur Engineering College (KEC) Conference Proceedings, 1(1), pp. 81–86.
2. Ashok, V. and Vinod, D.S. (2014). Automatic Quality Evaluation of Fruits Using Probabilistic Neural Network Approach. In: International Conference on Contemporary Computing and Informatics (IC3I). Mysore, India: IEEE, pp. 308–311.
3. Bhimte, N.R. and Thool, V.R. (2018). Diseases Detection of Cotton Leaf Spot Using Image Processing and SVM Classifier. In: Second International Conference on Intelligent Computing and Control Systems (ICICCS). Madurai, India: IEEE, pp.340–344.
4. Blake, J.H., Kluepfel, M. and P. Keinath, A. (2018). Tomato Diseases & Disorders. [online] Home & Garden Information Center | Clemson University, South Carolina. Available at: <https://hgic.clemson.edu/factsheet/tomato-diseases-disorders/> [Accessed Nov. 2019].
5. Brahimi, M., Boukhalifa, K. and Moussaoui, A. (2017). Deep Learning for Tomato Diseases: Classification and Symptoms Visualization. Applied Artificial Intelligence, 31(4), pp. 299–315.
6. Dubey, Y.K., Mushrif, M.M. and Tiple, S. (2018). Superpixel Based Roughness Measure for Cotton Leaf Diseases Detection and Classification. In: 4th International Conference on Recent Advances in Information Technology (RAIT). Dhanbad, India: IEEE, pp.1–5.
7. Ferentinos, K.P. (2018). Deep Learning Models For Plant Disease Detection and Diagnosis. Computers and Electronics in Agriculture, 145, pp. 311–318.
8. Fuentes, A., Youngki, H., Park, D.S., Yoon, S. and Lee, Y. (2016). Characteristics of Tomato Plant Diseases - A Study for Tomato Plant Disease Identification. International Symposium on Information Technology Convergence (ISITC). pp. 226–230.
9. Gavhale, K.R. and Gawande, U. (2014). An Overview of the Research on Plant Leaves Disease detection using Image Processing Techniques. IOSR Journal of Computer Engineering (IOSR-JCE), 16(1), pp. 10–16.
10. Gavhale, K.R., Gawande, U. and Hajari, K.O. (2014). Unhealthy Region of Citrus Leaf Detection Using Image Processing techniques. In: International Conference for Convergence for Technology (ICCT). Pune, India: IEEE, pp.1–6.
11. Gurle, A.S., Barathe, S.N., Gangule, R.S., Jagtap, S.D. and Patankar, T. (2019). Survey Paper on Tomato Crop Disease Detection and Pest Management. International Journal of Applied Evolutionary Computation (IJAE), 10(3), pp. 10–18.
12. Iqbal, J., Adnan, S.M., Ahmad, R.W., Aziz, S., Ismail, W. and Din, Z. ud (2018). Classification of Tomato Plants' Leaf Diseases Using Image Segmentation and SVM. Technical Journal, 23(02), pp. 81–88.
13. Karmarkar, S., Jadhav, G., Parkhe, M., Kadam, A. and Patel, H. (2018). Tomato Disease Detection using Image Processing. International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering (IJAREEIE), 7(12), pp. 4212–4220.
15. Krishnaveni, M. and Radha, V. (2013). View-based Signer Independent Approach for Indian Sign Language Recognition Using Extreme Learning Machine. [Online] pp.107–121. Available at: <http://shodhganga.inflibnet.ac.in:8080/jspui/handle/10603/13306> [Accessed Nov. 2019].
16. Monthly Report Tomato. (2018). [online] agricoop.gov.in, Ministry of Agriculture and Farmers welfare, Govt. of India, pp.1–7. Available at: <http://agricoop.gov.in/horticulture-reports?page=6> [Accessed Nov. 2019].
17. Narmadha, R.P. and Arulvadi, G. (2017). Detection and Measurement of Paddy Leaf Disease Symptoms Using Image Processing. In: International Conference on Computer Communication and Informatics (ICCCI). Coimbatore, India: IEEE, pp. 1–4.
18. Narvekar, P. and Patil, S.N. (2015). Novel Algorithm for Grape Leaf Diseases Detection. International Journal of Engineering Research and General Science, 3(1), pp. 1240–1244.
19. Patil, J.K. and Kumar, R. (2011). Color Feature Extraction of Tomato Leaf Diseases. International Journal of Engineering Trends

- and Technology (IJETT), 2(2), pp. 72–74.
20. Rani, X.A.K. and Nagaraj, R. (2016). SOM Based Clustering for Detecting Bacterial Spot Disease in Tomato Field. *Indian Journal of Innovations and Developments (IJID)*, 5(7), pp. 1–8.
 21. Sarangdhar, A.A. and Pawar, V.R. (2017). Machine Learning Regression Technique for Cotton Leaf Disease Detection and Controlling Using IoT. In: *International conference of Electronics, Communication and Aerospace Technology (ICECA)*, Coimbatore, India: IEEE, pp.449–454.
 22. Shah, N. and Jain, S. (2019). Detection of Disease in Cotton Leaf using Artificial Neural Network. In: *Amity International Conference on Artificial Intelligence (AICAI)*. Dubai, United Arab Emirates: IEEE, pp.473–476.
 23. Sharma, K., Priyanka, Kalash, A. and Saini, K. (2015). GLCM and its Features. *International Journal of Advanced Research in Electronics and Communication Engineering (IJARECE)*, 4(8), pp. 2180–2182.
 24. Sivagami, S. and Mohanapriya, S. (2019). Automatic Detection of Tomato Leaf Deficiency and its Result of Disease Occurrence through Image Processing. *International Journal of Innovative Technology and Exploring Engineering (IJITEE)*, 8(11), pp. 4165–4172.
 25. Vetal, S. and R.S., K. (2017). Tomato Plant Disease Detection using Image Processing. *International Journal of Advanced Research in Computer and Communication Engineering (IJARCCE)*, 6(6), pp. 293–297.
 26. Zhang, S., Wang, H., Huang, W. and You, Z. (2018). Plant Diseased Leaf Segmentation and Recognition by Fusion of Superpixel, K-means and PHOG. *Optik*, 157, pp. 866–872.

94. Authors: Shubha Jain, Shail Dubey, Vaibhav Mishra, Durgesh Kumar Mishra

Paper Title: Automated Attendance Monitoring System using Face Detection and RFID Cards

Abstract: The attendance serves the most important role in the academic life of any student. Most of the colleges follow the traditional approach of attendance in which the professor speaks out student’s name and record attendance. For each lecture, this repetition of attendance calling is actually wastage of time and a time-taken procedure for calculating attendance of each student. Here an automatic process is proposed which is based on image processing with radio-frequency identification to avoid the losses. In this project approach, there is a use of face detection & RFID cards. Firstly, use the pre-processing step for the face detection and RFID receiver for the RFID cards counting and the second step is to detect, recognize and then the face is matched with stored images in the database. In this paper, viola-Jones algorithm is used for face detection, in which first step of integral image is used for feature computation and Adaboost algorithm is used for feature selection in second step. Then for discarding the non-faces, cascade classifiers is used in the third step of algorithm. The working of this project is to detect and recognize the face and RFID cards then mark the attendance for the corresponding face in the database on matching the face and unique number to the stored dataset. Face detection and RFID cards will be used as input and the attendance will be marked as output. This project is being conferred as a clarification for the “Automated attendance monitoring system.” Here a system of automatic face detection and recognition is proposed to mark the attendance automatically in database. This will save the time of person who is using traditional pen & paper based approach for attendance and hence is a solution for the automated attendance monitoring system. RFID cards are very helpful here for tracking or monitoring the student/teacher/employees within the campus. This system can be used in schools, colleges for students as well as for teachers also and it can be also used in companies, hospitals and malls for maintain records of accurate attendance of their employees.

539-544

Keywords: Automatic attendance monitoring system, radio frequency identification cards, face detection and face recognition, viola-Jones algorithm, Haar-features, PCA, LBP.

References:

1. Kalachugari Rohini, Sivaskandha Sanagala, Ravella Venkata Rathnam, Ch.Rajakishore Babu” Face Recognition Based Attendance System For CMR College of Engineering and Technology, Vol.8 Issue-4S2, Issn-2278-3075, March ,2019.
2. Lukas, S., Mitra, A. R., Desanti, R. I., & Krisnadi, D. (2016, October). Student attendance system in classroom using face recognition technique. In *2016 International Conference on Information and Communication Technology Convergence (ICTC)* (pp. 1032-1035). IEEE.
3. Benke, Sonali T., et al. "Survey Paper on: College Automation System using Face Recognition with RFID." *System* 4.12 (2017).
4. Poornima, S., Sriprya, N., Vijayalakshmi, B., & Vishnupriya, P. (2017, January). Attendance monitoring system using facial recognition with audio output and gender classification. In *2017 International Conference on Computer, Communication and Signal Processing (ICCCSP)* (pp. 1-5). IEEE.
5. Krishnan, R. R., Renuka, R., Swetha, C., & Ramakrishnan, R. (2016). Effective automatic attendance marking system using face recognition with RFID. *IJSRST*, 2920, 158-162.
6. Kavita, M., & Kaur, M. (2016). A survey paper for face recognition technologies. *International Journal of Scientific and Research Publications*, 6(7), 441-445.
7. Dhanalakshmi, N., Kumar, S. G., & Sai, Y. P. (2017, January). Aadhaar based biometric attendance system using wireless fingerprint terminals. In *2017 IEEE 7th International Advance Computing Conference (IACC)* (pp. 651-655). IEEE.
8. Sharma, P. S., Shetty, R. R., Yadkikar, G. V., & Kanade, D. (2016). College Automation System. *International Journal for Innovative Research in Science & Technology*, 2(10).
9. Benke, S. T., Ekhande, T. B., Kharde, K. R., & Pawar, A. D. (2017). Survey Paper on: College Automation System using Face Recognition with RFID. *System*, 4(12).
10. Kowsalya, P., Pavithra, J., Sowmiya, G., & Shankar, C. K. (2019). ATTENDANCE MONITORING SYSTEM USING FACE DETECTION & FACE RECOGNITION. *Inter Res J Eng Technol (IRJET)*.
11. Yang, M. H. (2002, May). Kernel Eigenfaces vs. Kernel Fisherfaces: Face Recognition Using Kernel Methods. In *Fgr* (Vol. 2, p. 215).
12. Gayathri, B. (2019). FACE RECOGNITION AND RADIO FREQUENCY IDENTIFICATION (RFID) WITH ARTIFICIAL INTELLIGENCE. *Journal of the Gujarat Research Society*, 21(16s), 581-588.
13. Kariapper, R. K. A. R., & Razeeth, S. (2019). RFID Based (IoT) Automatic Attendance System: A Survey Analysis. Available at SSRN 3372734.
14. Yuru, Z., Delong, C., & Liping, T. (2013). The research and application of college student attendance system based on RFID technology. *International Journal of Control and Automation*, 6(2), 273-282.
15. Aniket V. Phapale, Anis A. Momin, Chaitanya N.Ghule, Sagar D. Jadhav, Prof.Shubhangi D. Gunjal, “Automated Attendance System using RFID and Face Recognition” *International Journal of Innovative Research in Computer and Communication*

	<p>Engineering, ISSN(Online): 2320-9801, ISSN (Print) : 2320-9798, Vol. 4, Issue 3, March 2016.</p> <p>16. Patil, V., Kapadia, K., Khokrale, A., & Jain, P. (2020). Intelligent College Attendance System Using Image Tagging. Available at SSRN 3568112.</p> <p>17. Abhishek N, Mamatha B R, Ranjitha M, Shilpa Bai B, „Face Recognition Based Attendance System with Student Monitoring Using RFID Technology”, International Journal for Research in Applied Science & Engineering Technology (JRASET), IC Value: 45.98, ISSN: 2321-9653, Volume 5 Issue VI, June 2017.</p> <p>18. Viola, P., & Jones, M. (2001). Rapid Object Detection employing a Boosted Cascade of Simple options. In Proc. IEEE Conf. laptop Vision and Pattern Recognition (pp. 511-518).</p>							
95.	<table border="1"> <tr> <td>Authors:</td> <td>S. Santhosh Kumar, S. Revathi</td> </tr> <tr> <td>Paper Title:</td> <td>Photonic Crystal Fiber for Sensing Food Additives</td> </tr> <tr> <td colspan="2"> <p>Abstract: Photonic Crystal Fiber (PCF) have recently found extensive use in sensor applications. The design of PCFs is crucial for optimal sensing performance. In this work, an index guided Hollow Core Photonic Crystal Fiber (HC-PCF) with hexagonal shaped cladding is proposed for sensing harmful food additives. Using COMSOL software we performed extensive simulations and have shown that our proposed PCF design achieves a very high sensitivity > 90% for typical food additives like Saccharin, Sorbitol, and Butyl Acetate. We have also compared our proposed design and shown that it significantly outperforms the current PCF designs. The presence of hexagonal airholes in the entire cladding layer of the proposed PCF design enhances sensitivity in comparison to the previous designs. Also, the increase in size of the circular core supports the increased sensitivity.</p> <p>Keywords: Hollow core photonic crystal fiber, PCF, Relative sensitivity, Food additives.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Photonic Crystal Fiber Wiki, [Online]. Available: https://en.wikipedia.org/wiki/Photonic-crystal_fiber 2. F. Poli, A. Cucinotta, S. Selleri, “Photonic Crystal Fibers: Properties and Applications,” Springer Science & Business Media, 2007 Aug 17. 3. A. Bjarklev, J. Broeng, S. E. Barkou Libori, E. Knudsen and H. R. Simonsen, “Photonic crystal fiber modelling and applications,” OFC 2001. (IEEE Cat. 01CH37171), Anaheim, CA, 2001, pp. TuC1-TuC1. 4. Tianyu Yang, Erlei Wang, Haiming Jiang, Zhijia Hu, and Kang Xie, “High birefringence photonic crystal fiber with high nonlinearity and low confinement loss,” Opt. Express 23, 8329-8337 (2015). 5. Petru Ghenuche, Silke Rammler, Nicolas Y. Joly, Michael Scharrer, Michael Frosz, Jérôme Wenger, Philip St. J. Russell, and Hervé Rigneault, “Kagome hollow-core photonic crystal fiber probe for Raman spectroscopy,” Opt. Lett. 37, 4371-4373 (2012). 6. R. Ragni, S. Cicco, D. Vona, G. Leone, and G. M. Farinola, “Biosilica from diatoms microalgae: smart materials from bio-medicine to photonics,” Journal of Materials Research, vol. 32, no. 2, pp. 279–291, 2017. 7. Yimin Wang, Yonghua Zhao, J. S. Nelson, Zhongping Chen, and Robert S. Windeler, “Ultra-high-resolution optical coherence tomography by broadband continuum generation from a photonic crystal fiber,” Opt. Lett. 28, 182-184 (2003). 8. K. Saitoh and M. Koshiba, “Highly nonlinear dispersion-flattened photonic crystal fibers for supercontinuum generation in a telecommunication window,” Opt. Express 12, 2027-2032 (2004). 9. S. H. Kassani, R. Khazaeinezhad, Y. Jung, J. Kobelke and K. Oh, “Suspended Ring-Core Photonic Crystal Fiber Gas Sensor With High Sensitivity and Fast Response,” in IEEE Photonics Journal, vol. 7, no. 1, pp. 1-9, Feb. 2015, Art no. 2700409. 10. H. Yu, Z. Luo, Y. Zheng, J. Ma, X. Jiang and D. Jiang, “Vibration Sensing Using Liquid-Filled Photonic Crystal Fiber With a Central Air-Bore,” in IEEE Journal of Lightwave Technology, vol. 37, no. 18, pp. 4625-4633, 15 Sept. 15, 2019. 11. Md. I. Islam, K. Ahmed, S. Asaduzzaman, B. K. Paul, T. Bhuiyan, S. Sen, Md. S. Islam, S. Chowdhury, “Design of single mode spiral photonic crystal fiber for gas sensing applications,” in Sensing and Bio-Sensing Research, Volume 13, 2017, Pages 55-62, ISSN 2214-1804. 12. N. Ayyanar, G. Thavasi Raja, M. Sharma and D. Sriram Kumar, “Photonic Crystal Fiber-Based Refractive Index Sensor for Early Detection of Cancer,” in IEEE Sensors Journal, vol. 18, no. 17, pp. 7093-7099, 1 Sept. 1, 2018. 13. Senthil, R., Soni, A., Bir, K. et al. “Circular-Pattern Photonic Crystal Fiber for Different Liquids with High Effective Area and Sensitivity,” Plasmonics 14, 1783–1787, 2019. 14. S.M. Atiqullah, Apu Palit, Mohammad Istiaque Reja, Jobaida Akhtar, Saleha Fatema, Rubaya Absar, “Detection of harmful food additives using highly sensitive photonic crystal fiber,” in Sensing and Bio-Sensing Research, Volume 23, 2019, 100275, ISSN 2214-1804. 15. M. Niger, M. I. Reja, J. Akhtar, N. Jahan, R. Absar and S. Fatema, “Modified Dodecagonal PCF Sensor with High Sensitivity for Detecting Harmful Chemical Compounds used in Poultry Feed,” 2019 5th International Conference on Advances in Electrical Engineering (ICAEE), Dhaka, Bangladesh, 2019, pp. 530-535. 16. COMSOL Multiphysics® software, [Online]. Available: http://www.comsol.co.in/comsol-multiphysics 17. S. Chattopadhyay, U. Raychaudhuri, R. Chakraborty, “Artificial sweeteners—a review,” J. Food Sci. Technol. 51 (4) (2014 Apr 1) 611–621. 18. H. Mitchell (Ed.), “Sweeteners and sugar alternatives in food technology,” John Wiley & Sons, 2008 Apr 15. 19. U.S. National Library of Medicine, NCBI, [Online]. Available: https://pubchem.ncbi.nlm.nih.gov/compound/Butyl_acetate. 20. Report on Carcinogens, Fourteenth Edition, [Online]. Available: https://ntp.niehs.nih.gov/ntp/roc/content/appendix_b.pdf. 21. Sorbitol Side Effects, medically reviewed on Jul 4, 2018, [Online]. Available: https://www.drugs.com/sfx/sorbitol-side-effects.html. 22. Butyl Acetate Reviews, [Online]. Available: https://reviewguts.com/butyl-acetate, (June 09, 2018). 23. Understanding Wavelengths In Fiber Optics, [Online]. Available: https://www.thefoa.org/tech/wavelength.htm </td> </tr> </table>	Authors:	S. Santhosh Kumar, S. Revathi	Paper Title:	Photonic Crystal Fiber for Sensing Food Additives	<p>Abstract: Photonic Crystal Fiber (PCF) have recently found extensive use in sensor applications. The design of PCFs is crucial for optimal sensing performance. In this work, an index guided Hollow Core Photonic Crystal Fiber (HC-PCF) with hexagonal shaped cladding is proposed for sensing harmful food additives. Using COMSOL software we performed extensive simulations and have shown that our proposed PCF design achieves a very high sensitivity > 90% for typical food additives like Saccharin, Sorbitol, and Butyl Acetate. We have also compared our proposed design and shown that it significantly outperforms the current PCF designs. The presence of hexagonal airholes in the entire cladding layer of the proposed PCF design enhances sensitivity in comparison to the previous designs. Also, the increase in size of the circular core supports the increased sensitivity.</p> <p>Keywords: Hollow core photonic crystal fiber, PCF, Relative sensitivity, Food additives.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Photonic Crystal Fiber Wiki, [Online]. Available: https://en.wikipedia.org/wiki/Photonic-crystal_fiber 2. F. Poli, A. Cucinotta, S. Selleri, “Photonic Crystal Fibers: Properties and Applications,” Springer Science & Business Media, 2007 Aug 17. 3. A. Bjarklev, J. Broeng, S. E. Barkou Libori, E. Knudsen and H. R. Simonsen, “Photonic crystal fiber modelling and applications,” OFC 2001. (IEEE Cat. 01CH37171), Anaheim, CA, 2001, pp. TuC1-TuC1. 4. Tianyu Yang, Erlei Wang, Haiming Jiang, Zhijia Hu, and Kang Xie, “High birefringence photonic crystal fiber with high nonlinearity and low confinement loss,” Opt. Express 23, 8329-8337 (2015). 5. Petru Ghenuche, Silke Rammler, Nicolas Y. Joly, Michael Scharrer, Michael Frosz, Jérôme Wenger, Philip St. J. Russell, and Hervé Rigneault, “Kagome hollow-core photonic crystal fiber probe for Raman spectroscopy,” Opt. Lett. 37, 4371-4373 (2012). 6. R. Ragni, S. Cicco, D. Vona, G. Leone, and G. M. Farinola, “Biosilica from diatoms microalgae: smart materials from bio-medicine to photonics,” Journal of Materials Research, vol. 32, no. 2, pp. 279–291, 2017. 7. Yimin Wang, Yonghua Zhao, J. S. Nelson, Zhongping Chen, and Robert S. Windeler, “Ultra-high-resolution optical coherence tomography by broadband continuum generation from a photonic crystal fiber,” Opt. Lett. 28, 182-184 (2003). 8. K. Saitoh and M. Koshiba, “Highly nonlinear dispersion-flattened photonic crystal fibers for supercontinuum generation in a telecommunication window,” Opt. Express 12, 2027-2032 (2004). 9. S. H. Kassani, R. Khazaeinezhad, Y. Jung, J. Kobelke and K. Oh, “Suspended Ring-Core Photonic Crystal Fiber Gas Sensor With High Sensitivity and Fast Response,” in IEEE Photonics Journal, vol. 7, no. 1, pp. 1-9, Feb. 2015, Art no. 2700409. 10. H. Yu, Z. Luo, Y. Zheng, J. Ma, X. Jiang and D. Jiang, “Vibration Sensing Using Liquid-Filled Photonic Crystal Fiber With a Central Air-Bore,” in IEEE Journal of Lightwave Technology, vol. 37, no. 18, pp. 4625-4633, 15 Sept. 15, 2019. 11. Md. I. Islam, K. Ahmed, S. Asaduzzaman, B. K. Paul, T. Bhuiyan, S. Sen, Md. S. Islam, S. Chowdhury, “Design of single mode spiral photonic crystal fiber for gas sensing applications,” in Sensing and Bio-Sensing Research, Volume 13, 2017, Pages 55-62, ISSN 2214-1804. 12. N. Ayyanar, G. Thavasi Raja, M. Sharma and D. Sriram Kumar, “Photonic Crystal Fiber-Based Refractive Index Sensor for Early Detection of Cancer,” in IEEE Sensors Journal, vol. 18, no. 17, pp. 7093-7099, 1 Sept. 1, 2018. 13. Senthil, R., Soni, A., Bir, K. et al. “Circular-Pattern Photonic Crystal Fiber for Different Liquids with High Effective Area and Sensitivity,” Plasmonics 14, 1783–1787, 2019. 14. S.M. Atiqullah, Apu Palit, Mohammad Istiaque Reja, Jobaida Akhtar, Saleha Fatema, Rubaya Absar, “Detection of harmful food additives using highly sensitive photonic crystal fiber,” in Sensing and Bio-Sensing Research, Volume 23, 2019, 100275, ISSN 2214-1804. 15. M. Niger, M. I. Reja, J. Akhtar, N. Jahan, R. Absar and S. Fatema, “Modified Dodecagonal PCF Sensor with High Sensitivity for Detecting Harmful Chemical Compounds used in Poultry Feed,” 2019 5th International Conference on Advances in Electrical Engineering (ICAEE), Dhaka, Bangladesh, 2019, pp. 530-535. 16. COMSOL Multiphysics® software, [Online]. Available: http://www.comsol.co.in/comsol-multiphysics 17. S. Chattopadhyay, U. Raychaudhuri, R. Chakraborty, “Artificial sweeteners—a review,” J. Food Sci. Technol. 51 (4) (2014 Apr 1) 611–621. 18. H. Mitchell (Ed.), “Sweeteners and sugar alternatives in food technology,” John Wiley & Sons, 2008 Apr 15. 19. U.S. National Library of Medicine, NCBI, [Online]. Available: https://pubchem.ncbi.nlm.nih.gov/compound/Butyl_acetate. 20. Report on Carcinogens, Fourteenth Edition, [Online]. Available: https://ntp.niehs.nih.gov/ntp/roc/content/appendix_b.pdf. 21. Sorbitol Side Effects, medically reviewed on Jul 4, 2018, [Online]. Available: https://www.drugs.com/sfx/sorbitol-side-effects.html. 22. Butyl Acetate Reviews, [Online]. Available: https://reviewguts.com/butyl-acetate, (June 09, 2018). 23. Understanding Wavelengths In Fiber Optics, [Online]. Available: https://www.thefoa.org/tech/wavelength.htm 		545-551
Authors:	S. Santhosh Kumar, S. Revathi							
Paper Title:	Photonic Crystal Fiber for Sensing Food Additives							
<p>Abstract: Photonic Crystal Fiber (PCF) have recently found extensive use in sensor applications. The design of PCFs is crucial for optimal sensing performance. In this work, an index guided Hollow Core Photonic Crystal Fiber (HC-PCF) with hexagonal shaped cladding is proposed for sensing harmful food additives. Using COMSOL software we performed extensive simulations and have shown that our proposed PCF design achieves a very high sensitivity > 90% for typical food additives like Saccharin, Sorbitol, and Butyl Acetate. We have also compared our proposed design and shown that it significantly outperforms the current PCF designs. The presence of hexagonal airholes in the entire cladding layer of the proposed PCF design enhances sensitivity in comparison to the previous designs. Also, the increase in size of the circular core supports the increased sensitivity.</p> <p>Keywords: Hollow core photonic crystal fiber, PCF, Relative sensitivity, Food additives.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Photonic Crystal Fiber Wiki, [Online]. Available: https://en.wikipedia.org/wiki/Photonic-crystal_fiber 2. F. Poli, A. Cucinotta, S. Selleri, “Photonic Crystal Fibers: Properties and Applications,” Springer Science & Business Media, 2007 Aug 17. 3. A. Bjarklev, J. Broeng, S. E. Barkou Libori, E. Knudsen and H. R. Simonsen, “Photonic crystal fiber modelling and applications,” OFC 2001. (IEEE Cat. 01CH37171), Anaheim, CA, 2001, pp. TuC1-TuC1. 4. Tianyu Yang, Erlei Wang, Haiming Jiang, Zhijia Hu, and Kang Xie, “High birefringence photonic crystal fiber with high nonlinearity and low confinement loss,” Opt. Express 23, 8329-8337 (2015). 5. Petru Ghenuche, Silke Rammler, Nicolas Y. Joly, Michael Scharrer, Michael Frosz, Jérôme Wenger, Philip St. J. Russell, and Hervé Rigneault, “Kagome hollow-core photonic crystal fiber probe for Raman spectroscopy,” Opt. Lett. 37, 4371-4373 (2012). 6. R. Ragni, S. Cicco, D. Vona, G. Leone, and G. M. Farinola, “Biosilica from diatoms microalgae: smart materials from bio-medicine to photonics,” Journal of Materials Research, vol. 32, no. 2, pp. 279–291, 2017. 7. Yimin Wang, Yonghua Zhao, J. S. Nelson, Zhongping Chen, and Robert S. Windeler, “Ultra-high-resolution optical coherence tomography by broadband continuum generation from a photonic crystal fiber,” Opt. Lett. 28, 182-184 (2003). 8. K. Saitoh and M. Koshiba, “Highly nonlinear dispersion-flattened photonic crystal fibers for supercontinuum generation in a telecommunication window,” Opt. Express 12, 2027-2032 (2004). 9. S. H. Kassani, R. Khazaeinezhad, Y. Jung, J. Kobelke and K. Oh, “Suspended Ring-Core Photonic Crystal Fiber Gas Sensor With High Sensitivity and Fast Response,” in IEEE Photonics Journal, vol. 7, no. 1, pp. 1-9, Feb. 2015, Art no. 2700409. 10. H. Yu, Z. Luo, Y. Zheng, J. Ma, X. Jiang and D. Jiang, “Vibration Sensing Using Liquid-Filled Photonic Crystal Fiber With a Central Air-Bore,” in IEEE Journal of Lightwave Technology, vol. 37, no. 18, pp. 4625-4633, 15 Sept. 15, 2019. 11. Md. I. Islam, K. Ahmed, S. Asaduzzaman, B. K. Paul, T. Bhuiyan, S. Sen, Md. S. Islam, S. Chowdhury, “Design of single mode spiral photonic crystal fiber for gas sensing applications,” in Sensing and Bio-Sensing Research, Volume 13, 2017, Pages 55-62, ISSN 2214-1804. 12. N. Ayyanar, G. Thavasi Raja, M. Sharma and D. Sriram Kumar, “Photonic Crystal Fiber-Based Refractive Index Sensor for Early Detection of Cancer,” in IEEE Sensors Journal, vol. 18, no. 17, pp. 7093-7099, 1 Sept. 1, 2018. 13. Senthil, R., Soni, A., Bir, K. et al. “Circular-Pattern Photonic Crystal Fiber for Different Liquids with High Effective Area and Sensitivity,” Plasmonics 14, 1783–1787, 2019. 14. S.M. Atiqullah, Apu Palit, Mohammad Istiaque Reja, Jobaida Akhtar, Saleha Fatema, Rubaya Absar, “Detection of harmful food additives using highly sensitive photonic crystal fiber,” in Sensing and Bio-Sensing Research, Volume 23, 2019, 100275, ISSN 2214-1804. 15. M. Niger, M. I. Reja, J. Akhtar, N. Jahan, R. Absar and S. Fatema, “Modified Dodecagonal PCF Sensor with High Sensitivity for Detecting Harmful Chemical Compounds used in Poultry Feed,” 2019 5th International Conference on Advances in Electrical Engineering (ICAEE), Dhaka, Bangladesh, 2019, pp. 530-535. 16. COMSOL Multiphysics® software, [Online]. Available: http://www.comsol.co.in/comsol-multiphysics 17. S. Chattopadhyay, U. Raychaudhuri, R. Chakraborty, “Artificial sweeteners—a review,” J. Food Sci. Technol. 51 (4) (2014 Apr 1) 611–621. 18. H. Mitchell (Ed.), “Sweeteners and sugar alternatives in food technology,” John Wiley & Sons, 2008 Apr 15. 19. U.S. National Library of Medicine, NCBI, [Online]. Available: https://pubchem.ncbi.nlm.nih.gov/compound/Butyl_acetate. 20. Report on Carcinogens, Fourteenth Edition, [Online]. Available: https://ntp.niehs.nih.gov/ntp/roc/content/appendix_b.pdf. 21. Sorbitol Side Effects, medically reviewed on Jul 4, 2018, [Online]. Available: https://www.drugs.com/sfx/sorbitol-side-effects.html. 22. Butyl Acetate Reviews, [Online]. Available: https://reviewguts.com/butyl-acetate, (June 09, 2018). 23. Understanding Wavelengths In Fiber Optics, [Online]. Available: https://www.thefoa.org/tech/wavelength.htm 								
96.	<table border="1"> <tr> <td>Authors:</td> <td>Ayani Tasaduq, Mohd. Irshad Malik, Amanpreet Tangri</td> </tr> <tr> <td>Paper Title:</td> <td>Influence of fly ash, lime Sludge and Polypropylene fibre on Compaction and Strength Properties of Subgrade</td> </tr> <tr> <td colspan="2"> <p>Abstract: The development of population, quick urbanization and more development of structures and buildings has brought about the decrease of good quality land. To improve the accessibility of good quality land, strength and compaction properties of land should be improved. The fundamental goal of this examination is to explore the utilization of fly ash, lime sludge and polypropylene fiber in Geotech highway application and to assess their impact on quality and compaction of soil, utilized for subgrade. The soil samples were gathered from the zones of Chandigarh where clayey soil is present in abundance. The laboratory testing led to decide the</p> </td> </tr> </table>	Authors:	Ayani Tasaduq, Mohd. Irshad Malik, Amanpreet Tangri	Paper Title:	Influence of fly ash, lime Sludge and Polypropylene fibre on Compaction and Strength Properties of Subgrade	<p>Abstract: The development of population, quick urbanization and more development of structures and buildings has brought about the decrease of good quality land. To improve the accessibility of good quality land, strength and compaction properties of land should be improved. The fundamental goal of this examination is to explore the utilization of fly ash, lime sludge and polypropylene fiber in Geotech highway application and to assess their impact on quality and compaction of soil, utilized for subgrade. The soil samples were gathered from the zones of Chandigarh where clayey soil is present in abundance. The laboratory testing led to decide the</p>		552-556
Authors:	Ayani Tasaduq, Mohd. Irshad Malik, Amanpreet Tangri							
Paper Title:	Influence of fly ash, lime Sludge and Polypropylene fibre on Compaction and Strength Properties of Subgrade							
<p>Abstract: The development of population, quick urbanization and more development of structures and buildings has brought about the decrease of good quality land. To improve the accessibility of good quality land, strength and compaction properties of land should be improved. The fundamental goal of this examination is to explore the utilization of fly ash, lime sludge and polypropylene fiber in Geotech highway application and to assess their impact on quality and compaction of soil, utilized for subgrade. The soil samples were gathered from the zones of Chandigarh where clayey soil is present in abundance. The laboratory testing led to decide the</p>								

	<p>strength and compactive effort of the clay soil. This investigation includes three principle tests. The primary test is standard proctor test. The subsequent test is California bearing ratio and the third test is the direct shear test. Proctor test gives the compactive effort of the soil and CBR gives the subgrade strength. The outcomes acquired are thought about for the examples and inferences are drawn towards the unstability and effectiveness of admixture support at different percentages, as replacement for high quality subgrade and cost-effective approach.</p> <p>Keywords:</p> <p>References:</p> <ol style="list-style-type: none"> 1. Peethamparan S., Olek J., Lovell J., 2008, Influence of chemical and physical characteristics of cement kiln dusts (CKDs) on their hydration behaviour and potential suitability for soil stabilization, cement and concrete research, pp 803-815 2. Brooks M. R., 2009, soil stabilization with fly ash and rice husk ash, international journal of research and review applied science, Vol 01, Issue 03 3. Senol A., 2011, Effect of fly ash and polypropylene fiber content on the soft soil, Bulletin of Engineering Geology and Environment. 4. Khalid N., Mukri M., Faizan K., Arshad M.D, 2012, Clay soil stabilized using WPSA mixtures, Electronic Journal of Geotechnical Engineering, Vol 17, pp 1215-1225. 5. Sabat A. & Pradhan A., 2014, Fiber reinforced fly ash stabilized expansive soil mixes as subgrade material in flexible pavement, Electronic Journal of Geotechnical Engineering, Vol 19, pp 5757-5770. 6. Pal S., Sonthwal V.K., and Rattan J.S., 2015, review on stabilization of soil using polypropylene waste fiber material, International Journal of Innovative Research in Science, Engineering and Technology, Vol 04, Issue 11. 					
97.	<table border="1"> <tr> <td>Authors:</td> <td>Hemant R Kulkarni, Vasudeo B Virulkar</td> </tr> <tr> <td>Paper Title:</td> <td>Flicker Mitigation in PMSG WECS Employing Grid Side Converter Control</td> </tr> </table> <p>Abstract: Need of green energy can be catered with the support of major share of wind power generation systems in the global energy scenario. Power quality of generated wind power depends on several factors. Wind velocity is one of the major factors producing fluctuations in the generated output voltage. These fluctuations cause visible disturbance to human eyes, known as voltage flicker. The wind farms affect performance of Grid due to variations in wind speed with respect to time. The paper explains measurement of flicker, flicker level severity index along with flicker mitigation technique. Flicker is observed in the power generated with help of Permanent Magnet Synchronous Generator (PMSG), where wind velocity is changing continuously. After employing converter control strategy, reduction in flicker level severity index is observed. The system is simulated using PSCAD/EMTDC, a powerful simulation software. Result shows that Grid side converter control helps to mitigate flicker effect.</p> <p>Keywords: Grid side Converters, Permanent Magnet Synchronous Generator (PMSG), Renewable Energy, Voltage Flicker.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Global Wind Energy Council, GWEC GLOBAL WIND REPORT 2018 ,2019. 2. J. Zeng, Q. Liu, X. Shi, Y. Shao and J. Zhong, "Studies on Voltage Flicker Caused by Integrated Wind Power," 2012 Asia-Pacific Power and Energy Engineering Conference, Shanghai, 2012, pp. 1-4. 3. J. Arai and Y. N. Zhou, Yicheng, Ryuichi Yokoyama, Kenji Iba, —Voltage Deviation of Wind Power Generation due to Wind Velocity Change, in Proceedings of the 7th WSEAS International Conference on Power Systems, Beijing, China, September 15-17, 2007, 2007, no. September, pp. 242–246. 4. B. Smith, IEEE Power Engineering Society, —IEEE Recommended Practice for Measurement and Limits of Voltage Fluctuations and Associated Light Flicker on AC Power Systems, 2005. 5. T. Thiringer, T. Petru, and S. Lundberg, —Flicker contribution from wind turbine installations, IEEE Trans. Energy Convers., vol. 19, no. 1, pp. 157–163, 2004. 6. —IEEE Std 1453.1-2012, IEEE Guide—Adoption of IEC/TR 61000-3-7:2008, Electromagnetic compatibility (EMC)—Limits—Assessment of emission limits for the connection of fluctuating installations to MV, HV and EHV power systems, 2008. 7. G. C. Lazaroiu, D. Zaninelli, and N. Golovanov, —Overview of IEC 61000-4-15 and, 2016. 8. El-tamaly, M. Wahab, and A. H. K. Alaboudy, —Simulation of Directly Grid-Connected Wind Turbines for Voltage Fluctuation Evaluation, no. December 2014, pp. 14–30, 2007. 9. Technical Report, —IEC TR 61000-1-4, IEC, vol. 2004, pp. 1–7, 2005. 10. Z. Chen, —Issues of connecting wind farms into power systems, Proc. IEEE Power Eng. Soc. Transm. Distrib. Conf., vol. 2005, pp. 1–6, 2005 11. A. D. Hansen and I. D. Margaris, —Type IV Wind Turbine Model, DTU Wind Energy, 2014. 12. A. H. Kasem Alaboudy, A. A. Daoud, S. S. Desouky, and A. A. Salem, —Converter controls and flicker study of PMSG-based grid connected wind turbines, Ain Shams Eng. J., vol. 4, no. 1, pp. 75–91, 2013. 13. H.R.Kulkarni, Dr.V.B.Virulkar, —Mitigation of Flicker in a Distribution-Connected Wind Farm with STATCOM, in 2017 International Conference on Energy, Communication, Data Analytics and Soft Computing (ICECDS), 2017, pp. 2208–2212. 14. H. R. Kulkarni; Dr.V. B. Virulkar, —Flicker Mitigation In Type IV Wind Turbine Generator by Reactive Power Control, in 2018 International Conference on Electrical, Electronics, Communication, Computer, and Optimization Techniques (ICECCOT), 2018, pp. 990–993. 15. Slobodan N. Vukosavic, —Grid-Side Converters Control and Design, Interfacing Between the AC Grid and Renewable Power Sources, Belgrade, Serbia: Springer, 2018. 	Authors:	Hemant R Kulkarni, Vasudeo B Virulkar	Paper Title:	Flicker Mitigation in PMSG WECS Employing Grid Side Converter Control	557-560
Authors:	Hemant R Kulkarni, Vasudeo B Virulkar					
Paper Title:	Flicker Mitigation in PMSG WECS Employing Grid Side Converter Control					
98.	<table border="1"> <tr> <td>Authors:</td> <td>Prakash Chittora, Sunvil Shukla, Sneha Yadav, Vimlesh Singh Rathore, Rakesh Yadav</td> </tr> <tr> <td>Paper Title:</td> <td>Extracting Maximum Power from PV Model using Fuzzy Logic Technique</td> </tr> </table> <p>Abstract: Electricity has become an inseparable part of our daily lives, its domain approach is boundless. Due</p>	Authors:	Prakash Chittora, Sunvil Shukla, Sneha Yadav, Vimlesh Singh Rathore, Rakesh Yadav	Paper Title:	Extracting Maximum Power from PV Model using Fuzzy Logic Technique	561-565
Authors:	Prakash Chittora, Sunvil Shukla, Sneha Yadav, Vimlesh Singh Rathore, Rakesh Yadav					
Paper Title:	Extracting Maximum Power from PV Model using Fuzzy Logic Technique					

to continuous use of energy resources (both renewable and non-renewable), it is our priority to conserve our resources. What is extracting power through PV cell? Solar energy is inexhaustible and can be extracted to electrical energy which eases the high consumption of non-renewable resources. How to maximize the solar energy? Maximum energy can be obtained by some external aid in the form of MPPT. Why do we incorporate different techniques in a MPPT? To control the maintenance of operating point of PV array at its maximum peak Optimization of renewable energy has drastically increased over the past few decades and now capable of conservation at a higher level. Solar energy is prime example of renewable source. Not more than 50% solar irradiance is converted to solar energy without any external aid (MPPT). These techniques are mentioned in the literature work below and the respective algorithms as well.

Keywords: MPPT, Fuzzy , Photo Voltaic

References:

1. A. F. Boehringer, "Self-adapting dc converter for solar spacecraft power supply," IEEE Transaction on Aerospace Electronic System, vol. AES-4, no. 1, pp. 102– 111, Jan. 1968.
2. K. H. Hussein and I. Mota, "Maximum photovoltaic power tracking: An algorithm for rapidly changing atmospheric conditions," in IEEE Proceedings Generation Transmission & Distribution, 1995, pp. 59–64.
3. C. Liu, B. Wu, and R. Cheung, "Advanced algorithm for MPPT control of photovoltaic systems," in Proceedings of the Canadian Solar Buildings Conference, Montreal, Canada, 2004.
4. S. Kamaruzzaman, "Optimization of a stand-alone wind/PV hybrid system to provide electricity for a household in Malaysia," in Proceedings of 4th IASME/WSEAS International Conference on Energy and Environment (EE '09), pp. 435–438, 2009.
5. N. A. Azli, Z. Salam, A. Jusoh, M. Facta, B. C. Lim, and S. Hossain, "Effect of fill factor on the MPPT performance of a grid-connected inverter under Malaysian conditions," in Proceedings of the IEEE 2nd International Power and Energy Conference (PECon '08), pp. 460–462, IEEE, Johor Bahru, Malaysia, December 2008.
6. P. Mattavelli, S. Saggini, E. Orietti, and G. Spiazzi, "A simple mixed-signal MPPT circuit for photovoltaic applications," in Proceedings of the 25th Annual IEEE Applied Power Electronics Conference and Exposition (APEC '10), pp. 953– 960, IEEE, Palm Springs, Calif, USA, February 2010.
7. X. Wu, Z. Cheng, and X. Wei, "A study of maximum power point tracking in novel small scale photovoltaic LED lighting systems," in Proceedings of the International Conference on Artificial Intelligence and Computational Intelligence (AICI '09), pp. 40–43, Shanghai, China, November 2009.
8. R. Kadri, J.-P. Gaubert, and G. Champenois, "An Improved maximum power point tracking for photovoltaic gridconnected inverter based on voltage-oriented control," IEEE Transactions on Industrial Electronics, vol. 58, no. 1, pp. 66– 75, 2011.
9. T. ESRAM and P. L. Chapman, "Comparison of Photovoltaic Array Maximum Power Point Tracking Techniques," in IEEE Transactions on Energy Conversion, vol. 22, no. 2, pp. 439449, June 2007.
10. A. Patel, V. Kumar, and Y. Kumar, "Perturb and observe maximum power point tracking for Photovoltaic cell," Innovative Systems Design and Engineering, vol. 4, no. 6, pp. 9–15, 2013.
11. N. Femia, G. Petrone, G. Spagnuolo, and M. Vitelli, "Optimization of perturb and observe maximum power point tracking method," IEEE Transactions on Power Electronics, vol. 20, no. 4, pp. 963–973, 2005.
12. Y.-T. Hsiao and C.-H.Chen, "Maximum power tracking for photovoltaic power system," in 37th IAS Annual Meeting Industrial Application Conference, 2002, pp. 1035–1040.
13. L.-R. Chen, C.-H.Tsai, Y.-L.Lin, and Y.-S. Lai, "A biological swarm chasing algorithm for tracking the PV maximum power point," IEEE Transactions on Energy Conversion, vol. 25, no. 2, pp. 484–493, 2010.
14. O. Waszynczuk, "Dynamic Behavior of a Class of Photovoltaic Power Systems," in IEEE Transactions on Power Apparatus and Systems, vol. PAS-102, no. 9, pp. 3031-3037, Sept. 1983.

99.	Authors:	Mohd Aasim Ahmed, H.S. Vidyadhar	
	Paper Title:	The Behavior of Flat Slab and Conventional RC Slab for Multi-Storey Buildings with Passive Energy Dissipating Devices Situated in High Seismic Zone.	
	Abstract:	The disaster safe construction practice for an engineer is a most difficult job. Today we have witnessed these natural disasters at its peak. Even after all highly skilled techniques used for constructions these natural disasters-like floods, earthquake, landslides etc.... are not negotiable. However, we are learning lessons from these disasters and upgrading ourselves so that a resistant structure is constructed. Among these disasters, the less predictable the less comprehended and highly disastrous is an earthquake. Even after the development of technology this disaster is highly unpredictable. Conventional attempts to make a building earthquake resistance which do not collapse under strong seismic forces has proved to be satisfactory but these techniques will cause a damage to non-structural components such as glass, window, door etc.... (OR) even some times the failure of structural components which leads to non-functionality of a building, but it should be noted that building like corporate offices, call centers, hospitals etc. ... must remain functional even after the earthquake. Hence special techniques are required to design the buildings to overcome above problem. Passive energy dissipating devices is the technique used to dissipate the energy incorporated in the building due to an earthquake.	566-576
	Keywords:	ETABS, Flat Slab, Conventional RC Slab, Passive energy Dissipating Devices.	
	References:	<ol style="list-style-type: none"> 1. A.K. Jain "Limit State Design of Reinforced Concrete", NEM CHAND & Bros Publisher, New Delhi. 2. S. Ramamrutham, "Design of Reinforced concrete structure", Dhanpat Rai Publishing Company (P) Limited-New Delhi. 3. Pankaj Agarwal, "Earthquake Resistance Design of Structures", PHI Learning Private Limited, New Delhi. 4. S. K Duggal, "Earthquake Resistance Design of Structures", Oxford University Press, New Delhi. 5. P.Santosh Kumar, "Application of Fluid Viscous Damper in Multi Storey Building", Vol 5, Issue 9, Sept 2016, IJRASET. 6. M.S. Landge, "Comparative Study of various types of dampers used for Multi Storey RCC Building", Vol 5, Issue 4, April 2017, IJRASET. 7. Nwe Nwe Win, "Seismic Response Comparison of multi storey building with Isolators", Vol 7, Issue 8, Aug 2018, IJSRET. 	

8. Omkar R. Shelar, "Base Isolators and Damping Systems for Earthquake Resistance", Vol 05, Issue 12, Dec 2018, IRJET.
9. S. Lakshmi, "Seismic Response Study and Evaluation of Vibration Control of Elevated RCC Structure using Friction Damper", Vol 8, Issue 7, May 2019, IJITEE.
10. Shruti S. Mane, "Seismic Analysis of Asymmetric RCC Building using Passive Energy Dissipating Devices", Vol 6, Issue 8, Aug 2019, IRJET.

100.

Authors: Nishi Shahnaj Haider, Siblu Thomas, Akhilesh Kumar Shrivastava

Paper Title: Image Based Grading of Emphysema

577-585

Abstract: Emphysema is permanent abnormal enlargement of alveolar walls due to destruction of the alveolar tissues and thereby affecting the gas exchange process of lungs. Grading is usually done to rank the severity of the disease. This paper is a comprehensive review of the imaging based methods used to monitor the emphysema severity. This article aims at the identification of the best imaging method for emphysema grading. Correlation of imaging outcome with pulmonary function parameters is analyzed. Time frame of reviewed articles included is from 2002 to till date. In this review, the classification methods employed for grading emphysema are examined. The best grading method was chosen based on the superior performance obtained in comparison to all the existing work available so far in grading the severity of emphysema. Three-dimensional CT densitometry is found to be highly significant with a correlation coefficient of $r = 0.97$ at significance value, $p < 0.001$ for the classification of moderate to very severe emphysema as compared to pulmonary function test (PFT). Further research needs to be done to identify methods for evaluating the progress of emphysema during its mild stage.

Keywords: Chronic Obstructive Pulmonary Disease, disease severity, emphysema, grading, imaging.

References:

1. M.P. Hosseini, H. Soltanian-Zadeh, S. Akhlaghpour, "Detection and severity scoring of chronic obstructive pulmonary disease using volumetric analysis of lung CT images", Iranian Journal of Radiology, 2012 Mar; Vol. 9, No. 1, 2012.
2. D. Adeloye, S. Chua, C. Lee, C. Basquill, A. Papan, E. Theodoratou, H. Nair, D. Gasevic, D. Sridhar, H. Campbell, K.Y. Chan, "Global and regional estimates of COPD prevalence: Systematic review and meta-analysis. Journal of global health, Vol. 5, No. 2, 2015.
3. D.M. Mannino, D.M. Homa, L.J. Akinbami, E.S. Ford, S.C. Redd, "Chronic obstructive pulmonary disease surveillance-United States, 1971-2000", Respiratory care, Vol. 47, No. 10, 2002.
4. B. Suki, K.R. Lutchen, E.P. Ingenito, "On the progressive nature of emphysema: roles of proteases, inflammation, and mechanical forces", American journal of respiratory and critical care medicine, Vol. 168, No. 5, 2003.
5. L. Trupin, G. Earnest, M. San Pedro, J.R. Balmes, M.D. Eisner, E. Yelin, P.P. Katz, P.D. Blanc, "The occupational burden of chronic obstructive pulmonary disease", European Respiratory Journal, Vol. 22, No. 3, 2003.
6. J.D. Johnson, W.M. Theurer, "A stepwise approach to the interpretation of pulmonary function tests. American family physician" Vol. 89, No. 5, 2014.
7. T. Köhnlein, T. Welte, "Alpha-1 antitrypsin deficiency: pathogenesis, clinical presentation, diagnosis, and treatment", The American journal of medicine, Vol. 121, No. 1, 2008.
8. A. Sharafkhan, N.A. Hanania, V. Kim, "Pathogenesis of emphysema: from the bench to the bedside", Proceedings of the American Thoracic Society, Vol. 5, No. 4, 2008.
9. O.M. Mets, P.A. De Jong, B. Van Ginneken, H.A. Gietema, J.W. Lammers, "Quantitative computed tomography in COPD: possibilities and limitations", Lung, Vol. 190, No. 2, 2012.
10. S.S. Salvi, P.J. Barnes, "Chronic obstructive pulmonary disease in non-smokers", The Lancet, Vol. 374, No. 9691, 2009.
11. M. Takahashi, J. Fukuoka, N. Nitta, R. Takazakura, Y. Nagatani, Y. Murakami, H. Otani, K. Murata, "Imaging of pulmonary emphysema: a pictorial review", International journal of chronic obstructive pulmonary disease, Vol. 3, No. 2, 2008.
12. L.A. Mohsen, E.A. Gawad, M.A. Ibrahim, "CT quantification of emphysema: Is semi-quantitative scoring a reliable enough method?" The Egyptian Journal of Radiology and Nuclear Medicine, Vol. 45, No. 3, 2014.
13. B.R. Celli, W.A. MacNee, A.A. Agusti, A. Anzueto, B. Berg, A.S. Buist, P.M. Calverley, N. Chavannes, T. Dillard, B. Fahy, A. Fein, "Standards for the diagnosis and treatment of patients with COPD: a summary of the ATS/ERS position paper", European Respiratory Journal, Vol. 23, No. 6, 2004.
14. R. Pellegrino, G. Viegi, V. Brusasco, R.O. Crapo, F. Burgos, R.E. Casaburi, A. Coates, C.P. Van Der Grinten, P. Gustafsson, J. Hankinson, R. Jensen, "Interpretative strategies for lung function tests", European respiratory journal, Vol. 26, No. 5, 2005.
15. S. Milne, G.G. King, "Advanced imaging in COPD: insights into pulmonary pathophysiology" Journal of thoracic disease, Vol. 6, No. 11, 2014.
16. K.L. Irion, B. Hochegger, E. Marchiori, N.D. Porto, S.D. Baldisserotto, P.R. Santana, "Chest X-ray and computed tomography in the evaluation of pulmonary emphysema.", J Bras Pneumol, Vol. 33, No. 6, 2007.
17. D. Litmanovich, P.M. Boiselle, A.A. Bankier, "CT of pulmonary emphysema-current status, challenges, and future directions", European radiology, Vol. 19, No. 3, 2009.
18. N. Patel, M. DeCamp, G.J. Criner, "Lung transplantation and lung volume reduction surgery versus transplantation in chronic obstructive pulmonary disease", Proceedings of the American Thoracic Society, Vol. 5, No.4, 2008.
19. K.L. Bailey, "The importance of the assessment of pulmonary function in COPD", Medical Clinics, Vol. 96, No. 4, 2012.
20. C.F. Vogelmeier, G.J. Criner, F.J. Martinez, A. Anzueto, P.J. Barnes, J. Bourbeau, B.R. Celli, R. Chen, M. Decramer, L.M. Fabbri, P. Frith P, "Global strategy for the diagnosis, management, and prevention of chronic obstructive lung disease 2017 report, GOLD executive summary", American journal of respiratory and critical care medicine, Vol. 195, No. 5, 2017.
21. A. Ali, M.D. Talag, P. Wilcox, "Clinical physiology of chronic obstructive pulmonary disease",
22. M. Emam, J.R. De La Faverie, N. Gharbi, M.I. El-Gohary, "Characterization of lung's emphysema distribution: Numerical assessment of disease development", In4th International Conference on New Trends in Information Science and Service Science, IEEE, 2010, pp. 464-469.
23. M. Miniati, S. Monti, J. Stolk, G. Mirarchi, F. Falaschi, R. Rabinovich, C. Canapini, J. Roca, K.F. Rabe, "Value of chest radiography in phenotyping chronic obstructive pulmonary disease", European Respiratory Journal, Vol. 31, No. 3, 2008.
24. K. Sashidhar, M. Gulati, D. Gupta, S. Monga, S. Suri S, "Emphysema in heavy smokers with normal chest radiography: Detection and quantification by HRCT", Acta radiologica, Vol. 43, No. 1, 2002.
25. L. Dong, J. Li, W. Jian, L. Zhang, M. Wu, H. Shi, S. Luo, "Emphysema early diagnosis using X-ray diffraction enhanced imaging at synchrotron light source", Biomedical engineering online, Vol. 13, No. 1, 2014.
26. H.O. Coxson, R.M. Rogers, "Quantitative computed tomography of chronic obstructive pulmonary disease", Academic radiology, Vol. 12, No. 11, 2005.
27. S. Kurugol, G.R. Washko, R.S. Estepar, "Ranking and classification of monotonic emphysema patterns with a multi-class hierarchical approach", IEEE 11th International Symposium on Biomedical Imaging (ISBI) 2014, pp. 1031-1034.

28. A.E. Dijkstra, D.S. Postma, N. ten Hacken, J.M. Vonk, M. Oudkerk, P.M. van Ooijen, P. Zanen, F.A. Hoesein, B. van Ginneken, M. Schmidt, H.J. Groen, "Low-dose CT measurements of airway dimensions and emphysema associated with airflow limitation in heavy smokers: a cross sectional study", *Respiratory research*, Vol. 14, No. 1, 2013.
29. T.K. Liang, T. Tanaka, H. Nakamura, A. Ishizaka, "A neural network based computer-aided diagnosis of emphysema using CT lung images", *InSICE Annual Conference 2007, IEEE*, 2007, pp. 703-709.
30. N.W. Todd, J. Jeudy, S. Lavania, T.J. Franks, J.R. Galvin, J. Deepak, E.J. Britt, S.P. Atamas, "Centrilobular emphysema combined with pulmonary fibrosis results in improved survival", *Fibrogenesis & tissue repair*, Vol. 4, No. 1, 2011.
31. K.L. Irion, E. Marchiori, B. Hochegger, N. da Silva Porto, J. da Silva Moreira, C.E. Anselmi, J.A. Holemans, P.O. Irion, "CT quantification of emphysema in young subjects with no recognizable chest disease", *American Journal of Roentgenology*, Vol. 192, No.3, 2009.
32. W.J. Kim, E.K. Silverman, E. Hoffman, G.J. Criner, Z. Mosenifar, F.C. Scuirba, B.J. Make, V. Carey, R.S. Estépar, A. Diaz, J.J. Reilly, "CT metrics of airway disease and emphysema in severe COPD", *Chest*, Vol. 136, No. 2, 2009.
33. L. Sorensen, S.B. Shaker, M. De Bruijne, "Quantitative analysis of pulmonary emphysema using local binary patterns", *IEEE transactions on medical imaging*, Vol. 29, No. 2, 2010.
34. J.V. Marcos, A. Muñoz-Barrutia, C. Ortiz-de-Solórzano, G. Cristóbal, "Quantitative assessment of emphysema severity in histological lung analysis", *Annals of biomedical engineering*, Vol. 43, No. 10, 2015.
35. N. Sverzellati, F. Molinari, T. Pirroni, L. Bonomo, P. Spagnolo, M. Zompatori, "New insights on COPD imaging via CT and MRI", *International journal of chronic obstructive pulmonary disease*, Vol.2, No. 3, 2007.
36. E.J. Van Beek, A.M. Dahmen, T. Stavngaard, K.K. Gast, C.P. Heussel, F. Krummenauer, J. Schmiedeskamp, J.M. Wild, L.V. Sogaard, A.E. Morbach, L.M. Schreiber, "Hyperpolarised 3He MRI versus HRCT in COPD and normal volunteers: PHIL trial", *European Respiratory Journal*, Vol. 34, No. 6, 2009.
37. T Stavngaard, L.V. Sogaard, M. Batz, L.M Schreiber, A. Dirksen, "Progression of emphysema evaluated by MRI using hyperpolarized 3he (hp 3he) measurements in patients with alpha-1-antitrypsin (a1at) deficiency compared with CT and lung function tests", *Acta Radiologica*, Vol. 50, No. 9, 2009.
38. D.G. Parr, B.C. Stoel, J. Stolk, R.A. Stockley, "Validation of computed tomographic lung densitometry for monitoring emphysema in α 1-antitrypsin deficiency", *Thorax*, Vol. 61, No. 6, 2006.
39. C.P. Hersh, G.R. Washko, F.L. Jacobson, R. Gill, R.S. Estepar, J.J. Reilly, E.K. Silverman, "Interobserver variability in the determination of upper lobe-predominant emphysema", *Chest*, Vol. 131, No. 2, 2007.
40. M. Charemza, E. Thönnies, A. Bhalerao, D. Parr, "Integral geometry descriptors for characterizing emphysema and lung fibrosis in HRCT images", *InFirst International Workshop on Pulmonary Image Processing (MICCAI 2008)*, pp. 155-164, 2008.
41. M. Prasad, A. Sowmya, P. Wilson, "Multi-level classification of emphysema in HRCT lung images", *Pattern Analysis and Applications*, Vol. 12, No.1, 2009.
42. J.S. Wang, P.M. Chergn, D.S. Perng, H.S. Lee, S. Wang, "High-resolution computed tomography in assessment of patients with emphysema", *Respiratory care*, Vol. 58, No. 4, 2013.
43. F.G. Meinel, A. Graef, S.F. Thieme, F. Bamberg, F. Schwarz, W.H. Sommer, A.D. Helck, C. Neurohr, M.F. Reiser, T.R. Johnson, "Assessing pulmonary perfusion in emphysema: automated quantification of perfused blood volume in dual-energy CTPA", *Investigative radiology*, Vol. 48, No. 2, 2013.
44. M. Nagao, K. Murase, "Measurement of heterogeneous distribution on Technegas SPECT images by three-dimensional fractal analysis", *Annals of nuclear medicine*, Vol. 16, No. 6, 2002.
45. D.E. Litmanovich, K. Hartwick, M. Silva, A.A. Bankier, "Multidetector computed tomographic imaging in chronic obstructive pulmonary disease: emphysema and airways assessment", *Radiologic Clinics*, Vol. 52, No. 1, 2014.
46. Y. Xu, M. Sonka, G. McLennan, J. Guo, E.A. Hoffman, "MDCT-based 3-D texture classification of emphysema and early smoking related lung pathologies", *IEEE transactions on medical imaging*, Vol. 25, No. 4, 2006.
47. H. Atta, G.S. Seifeldein, A. Rashad, R. Elmorshidy, "Quantitative validation of the severity of emphysema by multi-detector CT", *The Egyptian Journal of Radiology and Nuclear Medicine*, Vol. 46, No. 2, 2015.
48. W.A. Hassan, E. Abo-Elhamd, "Emphysema versus Chronic Bronchitis in COPD: Clinical and Radiologic Characteristics", *Open Journal of Radiology*, 2014.
49. M.O. Wielpütz, O. Weinheimer, M. Eichinger, M. Wiebel, J. Biederer, H.U. Kauczor, C.P. Heußel, M.A. Mall, M. Puderbach, "Pulmonary emphysema in cystic fibrosis detected by densitometry on chest multidetector computed tomography", *PLoS one*, Vol. 8, No. 8, 2013.
50. J. Hwang, M. Lee, S.M. Lee, S.Y. Oh, Y.M. Oh, N. Kim, J.B. Seo, "A size-based emphysema severity index: robust to the breath-hold-level variations and correlated with clinical parameters", *International journal of chronic obstructive pulmonary disease*, Vol. 11, 2016.
51. K. Bae, K.N. Jeon, S.J. Lee, H.C. Kim, H.C. Kim, J.Y. Ha, S.E. Park, H.J. Baek, B.H. Choi, S.B. Cho, J.I. Moon, "Severity of pulmonary emphysema and lung cancer: analysis using quantitative lobar emphysema scoring. *Medicine*", Vol. 95, No. 48, 2016.
52. N.A. Rezk, A.M. Elrahman, "Objective quantification of emphysema: Determining best threshold on MDCT 3D volumetry; based on lung function evaluation", *Egyptian Journal of Chest Diseases and Tuberculosis*, Vol. 63, No. 2, 2014.
53. F.A. Hoesein, P.A. de Jong, J.W. Lammers, W.P. Mali, M. Schmidt, H.J. de Koning, C. van der Aalst, M. Oudkerk, R. Vliegthart, H.J. Groen, B. van Ginneken, "Airway wall thickness associated with forced expiratory volume in 1 second decline and development of airflow limitation", *European Respiratory Journal*, Vol. 45, No. 3, 2015.
54. J.J. Mathews, A.H. Maurer, R.M. Steiner, N. Marchetti, G. Criner, J.P. Gaughan, H.O. Coxson, "New 133Xe gas trapping index for quantifying severe emphysema before partial lung volume reduction", *Journal of Nuclear Medicine*, Vol. 49, No. 5, 2008.
55. D.A. Torigian, V. Dam, X. Chen, B. Saboury, J.K. Udupa, A. Rashid, S. Moghadam-Kia, A. Alavi, "In vivo quantification of pulmonary inflammation in relation to emphysema severity via partial volume corrected (18) F-FDG-PET using computer-assisted analysis of diagnostic chest CT", *Hellenic journal of nuclear medicine*, Vol. 16, No. 1, 2013.

101.	Authors:		
	Paper Title:	Suspend	
	Abstract: Keywords: References:		4-8
102.	Authors:	Gandhapu Yashwanth, Gokavarapu Manikanta Kalyan, Singamsetty Phanindra, M. Jasmine Pemeena Priyadarsini	
	Paper Title:	Fake Biometric Detection for Face and Fingerprint	
	Abstract:	Face and Fingerprint acknowledgment is most popular and generally utilized as a biometric innovation as a result of their high ampleness and peculiarity. Besides the recognizing the user the present biometric systems have to face up with the new troubles like the spoofing attacks, like presenting a photo of the person to the camera. We study the anti-spoofing solutions for distinguishing between original and fake ones in both face and fingerprint in this paper. Generally, the face arrangement and portrayal that exhibits enhancements in coordinating execution over the more typical all-encompassing way to deal with face arrangement and	589-595

depiction. Face detection, introduced in this paper, comprises the accompanying significant advances like facial features locating using Active Shape Models (ASM), Local Binary Pattern for feature extraction which is known for its texture classification, and Random Forest is used for classification. a fingerprint comprises of edges and valleys design otherwise called furrows. For Fingerprint detection, introduced in this paper includes the accompanying significant advances like Minutiae based local patches, SURF, and PHOG for feature extraction, and Random Forest is used for classification. The proposed methodologies are profoundly seriously contrasted and different as the investigation of the general picture nature of real biometric tests uncovers essential data for both face and fingerprints that might be productively used to segregate them from fake attributes.

Keywords: Active Shape Models(ASM), Local Binary Patterns(LBP), Pyramid Histogram of Oriented Gradients(PHOG), Random Forest(RF), Speeded-Up Robust Features(SURF).

References:

1. Q. Phan, D. Dang-Nguyen, G. Boato and F. G. B. De Natale, "FACE spoofing detection using LDP-TOP," 2016 IEEE International Conference on Image Processing (ICIP), Phoenix, AZ, 2016, pp. 404-408, doi: 10.1109/ICIP.2016.7532388.
2. T. Edmunds and A. Caplier, "Face spoofing detection based on colour distortions," in IET Biometrics, vol. 7, no. 1, pp. 27-38, 1 2018, doi: 10.1049/iet-bmt.2017.0077.
3. T. Ojala, M. Pietikainen, and T. Maenpaa, "Multiresolution gray-scale and rotation invariant texture classification with local binary patterns," Pattern Analysis and Machine Intelligence, IEEE Transactions on, vol. 24, no. 7, pp. 971-987, 2002.
4. P. Viola and M. Jones, "Rapid object detection using a boosted cascade of simple features," in Computer Vision and Pattern Recognition, 2001. CVPR 2001. Proceedings of the 2001 IEEE Computer Society Conference on, vol. 1. IEEE, 2001, pp. 1-511.
5. Tanvi Dhawanpatil , Bela Joglekar , "Face Spoofing Detection using Multiscale Local Binary Pattern Approach" in IEEE Transaction,978-1-5386-4008-1/17/ ©2017 IEEE.
6. T. Ahonen, A. Hadid and M. Pietikainen, "Face Description with Local Binary Patterns: Application to Face Recognition," in IEEE Transactions on Pattern Analysis and Machine Intelligence, vol. 28, no. 12, pp. 2037-2041, Dec. 2006, doi: 10.1109/TPAMI.2006.244.
7. K. Cao, E. Liu, L. Pang, J. Liang, and J. Tian, "Fingerprint matching by incorporating minutiae discriminability," in International Joint Conference on Biometrics, pp. 1-6, 2011.
8. Herbert Bay, Andreas Ess, Tinne Tuytelaars, and Luc Van Gool, "Speeded-up robust features (surf)," Comput. Vis. Image Underst., vol. 110, pp. 346-359, jun 2008.
9. T. Chugh, K. Cao and A. K. Jain, "Fingerprint spoof detection using minutiae-based local patches," 2017 IEEE International Joint Conference on Biometrics (IJCB), Denver, CO, 2017, pp. 581-589, doi: 10.1109/BTAS.2017.8272745.
10. N. Dalal and B. Triggs, "Histograms of oriented gradients for human detection," in Computer Vision and Pattern Recognition, 2005. CVPR 2005. IEEE Computer Society Conference on, June 2005, vol. 1, pp. 886-893 vol. 1.
11. S. S. Kulkarni and H. Y. Patil, ""A fingerprint spoofing detection system using LBP"," 2016 International Conference on Electrical, Electronics, and Optimization Techniques (ICEEOT), Chennai, 2016, pp. 3413-3419, doi: 10.1109/ICEEOT.2016.7755337.
12. Y. Zhao D. Zheng and J. Wang (PRC), "Features extraction using a gabor filter family," in Proceedings of the sixth LASTED International conference, Signal and Image processing, Hawaii, USA., August 2004.
13. G. B. Souza, D. F. S. Santos, R. G. Pires, A. N. Marana and J. P. Papa, "Deep Boltzmann machines for robust fingerprint spoofing attack detection," 2017 International Joint Conference on Neural Networks (IJCNN), Anchorage, AK, 2017, pp. 1863-1870, doi: 10.1109/IJCNN.2017.7966077.
14. L.Breiman "Random forests", Machine Learning, vol. 45, no. 1, pp.5-32,2001.
15. A.Liaw and M. Wiener, "Classification and regression by random Forest," R News, vol. 2, no.3, p.1820, 2002.
16. A. Z. Kouzani, S. Nahavandi and K. Khoshmanesh, "Face classification by a random forest," TENCON 2007 - 2007 IEEE Region 10 Conference, Taipei, 2007, pp. 1-4, doi: 10.1109/TENCON.2007.4428937.
17. Gabriella Csurka, Christopher R. Dance, Lixin Fan, Jutta Willamowski, and Cdric Bray, "Visual categorization with bags of keypoints," in In Workshop on Statistical Learning in Computer Vision, ECCV, 2004, pp. 1-22.
18. J.Lu, K.plataniotis, A. venetsanopolous, and S, Li, "Ensemble-based discriminant learning with boosting learning with boosting for face recognition," IEEE Trans on Neural networks, vol.17,no.1, pp. 166-178, Jan 2006.
19. 19. Vinu Thadevus Williams and Dr. K. S. Angel Viji, "Using Low Level Features -Fingerprint Liveness Detection from Single Image", International Journal of Advance Research, Ideas and Innovations in Technology, vol. 3,issue 6, pp. 1149-1153, Dec 2017.

103.	Authors:	Vinay Khandagale, Iti Agarwal, Aditya Ujalambkar, Sanjay Ghodake	596-601
	Paper Title:	IoT Based Electrolyte level Monitoring System	
<p>Abstract: In hospitals, Electrolyte is fed to patients in many ways. One of the important functions is in the form of saline to treat dehydration and thus improve their health. In current health care measures, whenever a saline is fed to any patient, the patient needs to be continuously monitored by a nurse or any caretaker. Monitoring the Saline level in a bottle attached to a patients' body is one of the most important tasks for a Nurse/caretaker. In cases involving ignorance or carelessness, the bottle may get empty and blood can start flowing reverse into the bottle from patients' body. This is a risky situation and needs a better solution. We are developing an IoT based bottle level monitoring system that will detect the saline bottle level at all instances and will send an alert to the hospital's control room in case the bottle reaches it's critical level(30% of initial level) and if there is no response and the level goes beyond 20% on initial level, we stop the flow. We are using ESP8266 Wi-Fi module for processing and communication and load sensor for detecting the bottle weight. The proposed system is not electrolyte specific and can monitor any fluid. A Dc Motor controlled- screw actuated clamp mechanism is used for stopping the flow.</p> <p>Keywords: IoT, level monitoring, ESP8266 Wi-Fi, electrolyte-specific, DC Motor controlled, notification, screw actuated clamp mechanism.</p> <p>References:</p>			

1. Pooja Pandit Landge, Siddharudha S. ShirganT R, "Smart Saline Level Monitoring and Control System", International Journal for Research in Applied Science & Engineering Technology, Volume 7 Issue VIII, Aug 2019
2. Ashika A. Dharmale, Revati R. Mehare, Ankita R. Bharti, Shweta R. Meshram, Prof. Swapnil V. Deshmukh "IoT Based Saline Level Monitoring & Automatic Alert System", International Journal of Advanced Research in Computer and Communication Engineering, Vol. 8, Issue 4, April 2019
3. B. Naga Malleswari, P. Vijay varma, Dr.N.Venkataram , "Smart saline level monitoring system using IOT", International Journal of Engineering & Technology, 7 (2.7) (2018) 817-819
4. Debjani Ghosh, Ankit Agrawal, Navin Prakash, Pushkal Goyal, "Smart Saline Level Monitoring System Using ESP32 And MQTT-S" 2018 IEEE 20th International Conference on e-Health Networking, Applications and Services (Healthcom)
5. Khushboo Vaishnav, Neha Swamy, Nargees Bano Haidarali, Prof.Madhuri Patil "IoT Based Saline Level Monitoring System", International Journal of Innovations & Advancement in Computer Science ISSN 2347 – 8616 Volume 6, Issue 10 October 2017
6. Eng. María Margarita González Ramírez, Msc. Juan Carlos Villamizar Rincón, Eng. Joseph Fernando Lopez Parada "Liquid Level Control Of Coca-Cola Bottles Using An Automated System" , International Conference on Electronics, Communications and Computers (CONIELECOMP), IEEE Xplore, 01 May 2014

104.

Authors:

Ola A. Mayhoub, El-Sayed A.R. Nasr, Yehia Ali, Mohamed Kohail

Paper Title:

Behavior of RPC based Alkali Activated Material Compared with Conventional RPC

Abstract: Reactive Powder Concrete (RPC) is a type of high strength concrete that is characterized by its excellent engineering properties. Inclusion of high silica fume contents and high cement demand are the most essential parameters in the development of RPC. Silica fume is a highly cost and unavailable material in many countries. Cement industry is not a sustainable eco-friendly process. High heat of hydration and many shrinkage cracks are also the most shortcomings obtained from cement utilization. Therefore, it's urgently required to replace the utilization of silica fume and cement with partially or totally environmental friendly materials in the production of RPC. Metakaoline (MK) is a low cost, available and high pozzolanic material that can substitute silica fume in concrete. Alkali Activated Materials (AAM) binders are new technology that can totally replace the cement in concrete. The main objective of this study is to evaluate the performance of RPC based cement developed by MK and the performance of RPC based AAM under different curing conditions. Slag and MK are the used AAM in this research which are eco-friendly, sustainable and quite available materials in Egypt. The engineering properties like compressive strength and sorptivity are studied to investigate the behavior of RPC. It was concluded that thermal curing has shown a good impact in the performance of all RPC mixes. MK has shown satisfied results in the behavior of RPC based AAM under thermal curing. Slag shows better mechanical and durability properties that resemble the behavior of the conventional RPC based cement.

602-607

Keywords: Reactive Powder Concrete, Alkali Activated Materials, GGBS, Metakaoline, Silica Fume, Curing Regimes, Compressive strength, Sorptivity.

References:

1. M. M. S. Ridha, K. F. Sarsam, and I. A. S. Al-Shaarba, "Experimental Study and Shear Strength Prediction for Reactive Powder Concrete Beams," *Case Stud. Constr. Mater.*, vol. 8, no. December 2017, pp. 434–446, 2018.
2. W. Zheng, H. Li, and Y. Wang, "Compressive stress-strain relationship of steel fiber-reinforced reactive powder concrete after exposure to elevated temperatures," *Constr. Build. Mater.*, vol. 35, pp. 931–940, 2012.
3. P. Richard and M. H. Cheyrezy, "Reactive powder concretes with high ductility and 200 - 800 Mpa compressive strength," in *Proceedings of V. Mohan Malhotra Symposium*, 1994.
4. P. Richard and M. Cheyrezy, "Composition of reactive powder concretes," *Cem. Concr. Res.*, vol. 25, no. 7, pp. 1501–1511, 1995.
5. M. Cheyrezy, V. Maret, and L. Frouin, "Microstructural analysis of RPC (Reactive Powder Concrete)," *Cem. Concr. Res.*, vol. 25, no. 7, pp. 1491–1500, 1995.
6. Ola A. Mayhoub, S. A. R. Nasr, Y. Ali1, and M. Kohail, "A Review on the Influence of Reactive Powder Concrete Ingredients on the Mechanical Properties," *Int. J. Sci. Eng. Res.*, vol. Volume 11, no. 4, pp. 145–159, 2020.
7. D. S. Klimesch and A. Ray, "Autoclaved cement-quartz pastes with metakaolin additions," *Adv. Cem. Based Mater.*, 1998.
8. K. P. Tian et al., "Effects of Silica Fume Addition on the Spalling Phenomena of Reactive Powder Concrete," *Appl. Mech. Mater.*, 2012.
9. Y. Peng, J. Zhang, J. Liu, J. Ke, and F. Wang, "Properties and microstructure of reactive powder concrete having a high content of phosphorous slag powder and silica fume," *Constr. Build. Mater.*, vol. 101, pp. 482–487, 2015.
10. H. Yazici, H. Yiğiter, A. Ş. Karabulut, and B. Baradan, "Utilization of fly ash and ground granulated blast furnace slag as an alternative silica source in reactive powder concrete," *Fuel*, vol. 87, no. 12, pp. 2401–2407, 2008.
11. H. Yiğiter, S. Aydin, H. Yazici, and M. Y. Yardimci, "Mechanical performance of low cement reactive powder concrete (LCRPC)," *Compos. Part B Eng.*, 2012.
12. J. Davidovits, "High-Alkali Cements for 21st Century Concretes," *ACI Spec. Publ.*, 1994.
13. K. H. Yang, J. K. Song, and K. Il Song, "Assessment of CO₂ reduction of alkali-activated concrete," *J. Clean. Prod.*, 2013.
14. M. S. El-Feky, A. M. El-Tair, M. Kohail, and M. I. Serag, "Nano-fibrillated cellulose as a green alternative to carbon nanotubes in nano reinforced cement composites," *Int. J. Innov. Technol. Explor. Eng.* 8 (2019) 484–491. <https://doi.org/10.35940/ijitee.L3377.1081219>
15. A. M. Aly, M. S. El-Feky, M. Kohail, and E. S. A. R. Nasr, "Performance of geopolymer concrete containing recycled rubber," *Constr. Build. Mater.*, 207 (2019) 136–144. <https://doi.org/10.1016/j.conbuildmat.2019.02.121>.
16. A. Maher El-Tair, M. S. El-Feky, K. G. Sharobim, H. Mohammedin, and M. Kohail, "Improving the reactivity of clay nanoparticles in high strength mortars through indirect sonication method," *Int. J. Sci. Technol. Res.* 9 (2020) 1045–1054.
17. A. Abdelmonem, M. S. El-Feky, E. S. A. R. Nasr, and M. Kohail, "Performance of high strength concrete containing recycled rubber," *Constr. Build. Mater.* 227 (2019). <https://doi.org/10.1016/j.conbuildmat.2019.08.041>.
18. M. S. Reddy, P. Dinakar, and B. H. Rao, "Mix design development of fly ash and ground granulated blast furnace slag based geopolymer concrete," *J. Build. Eng.*, 2018.
19. P. Nath and P. K. Sarker, "Effect of GGBFS on setting, workability and early strength properties of fly ash geopolymer concrete cured in ambient condition," *Constr. Build. Mater.*, 2014.
20. S. Kumar, R. Kumar, and S. P. Mehrotra, "Influence of granulated blast furnace slag on the reaction, structure and properties of fly ash based geopolymer," *J. Mater. Sci.*, 2010.

21. M. N. S. Hadi, N. A. Farhan, and M. N. Sheikh, "Design of geopolymer concrete with GGBFS at ambient curing condition using Taguchi method," *Constr. Build. Mater.*, 2017.
22. E. I. Diaz, E. N. Allouche, and S. Eklund, "Factors affecting the suitability of fly ash as source material for geopolymers," *Fuel*, 2010.
23. R. H. Kupaei, U. J. Alengaram, M. Z. Bin Jumaat, and H. Nikraz, "Mix design for fly ash based oil palm shell geopolymer lightweight concrete," *Constr. Build. Mater.*, 2013.
24. T. R. Barbosa, E. L. Foletto, G. L. Dotto, and S. L. Jahn, "Preparation of mesoporous geopolymer using metakaolin and rice husk ash as synthesis precursors and its use as potential adsorbent to remove organic dye from aqueous solutions," *Ceram. Int.*, 2018.
25. N. Asim et al., "Emerging sustainable solutions for depollution: Geopolymers," *Construction and Building Materials*. 2019.
26. B. Sabir, S. Wild, and J. Bai, "Metakaolin and calcined clays as pozzolans for concrete: A review," *Cem. Concr. Compos.*, 2001.
27. P. S. L. Souza and D. C. C. Dal Molin, "Viability of using calcined clays, from industrial by-products, as pozzolans of high reactivity," *Cem. Concr. Res.*, 2005.
28. R. Fernandez, F. Martirena, and K. L. Scrivener, "The origin of the pozzolanic activity of calcined clay minerals: A comparison between kaolinite, illite and montmorillonite," *Cem. Concr. Res.*, 2011.
29. N. Hamed, M. S. El-Feky, M. Kohail, and E. S. A. R. Nasr, "Effect of nano-clay de-agglomeration on mechanical properties of concrete," *Constr. Build. Mater.* 205 (2019) 245–256. <https://doi.org/10.1016/j.conbuildmat.2019.02.018>.
30. O. M. Bakr, H. M. Elkady, E. A. R. Nasr, and M. Kohail, "Assessment of mechanical and fire resistance for hybrid nano-clay and steel fibres concrete at different curing ages," *J. Struct. Fire Eng.* (2019). <https://doi.org/10.1108/SFFE-06-2019-0024>.
31. L. Chen, K. Zheng, T. Xia, and G. Long, "Mechanical property, sorptivity and microstructure of steam-cured concrete incorporated with the combination of metakaolin-limestone," *Case Stud. Constr. Mater.*, 2019.
32. M. Abid, X. Hou, W. Zheng, and R. R. Hussain, "High temperature and residual properties of reactive powder concrete – A review," *Constr. Build. Mater.*, vol. 147, no. 519, pp. 339–351, 2017.
33. A. Shamseldin, H. Elshafie, A. Rashad, and M. Kohail, "Assessment and restoration of bond strength of heat-damaged reinforced concrete elements," *Constr. Build. Mater.* 169 (2018) 425–435. <https://doi.org/10.1016/j.conbuildmat.2018.03.008>.
34. N. Ghazaly, A. Rashad, M. Kohail, and O. Nawawy, "Evaluation of bond strength between steel rebars and concrete for heat-damaged and repaired beam-end specimens," *Eng. Struct.* 175 (2018) 661–668. <https://doi.org/10.1016/j.engstruct.2018.08.056>.
35. H. M. Giasuddin, J. G. Sanjayan, and P. G. Ranjith, "Strength of geopolymer cured in saline water in ambient conditions," *Fuel*, 2013.
36. S. Aydin and B. Baradan, "Mechanical and microstructural properties of heat cured alkali-activated slag mortars," *Mater. Des.*, 2012.
37. J. He, Y. Jie, J. Zhang, Y. Yu, and G. Zhang, "Synthesis and characterization of red mud and rice husk ash-based geopolymer composites," *Cem. Concr. Compos.*, 2013.
38. A. Islam, U. J. Alengaram, M. Z. Jumaat, and I. I. Bashar, "The development of compressive strength of ground granulated blast furnace slag-palm oil fuel ash-fly ash based geopolymer mortar," *Mater. Des.*, 2014.
39. N. Ranjbar, M. Mehrali, U. J. Alengaram, H. S. C. Metselaar, and M. Z. Jumaat, "Compressive strength and microstructural analysis of fly ash/palm oil fuel ash based geopolymer mortar under elevated temperatures," *Constr. Build. Mater.*, 2014.
40. G. S. Ryu, Y. B. Lee, K. T. Koh, and Y. S. Chung, "The mechanical properties of fly ash-based geopolymer concrete with alkaline activators," *Constr. Build. Mater.*, 2013.
41. H. M. Khater, "Effect of Calcium on Geopolymerization of Aluminosilicate Wastes," *J. Mater. Civ. Eng.*, 2012.
42. M. S. El-Feky, M. Kohail, A. M. El-Tair, and M. I. Serag, "Effect of microwave curing as compared with conventional regimes on the performance of alkali activated slag pastes," *Constr. Build. Mater.* 233(2020). <https://doi.org/10.1016/j.conbuildmat.2019.117268>.
43. ASTM C150, "Standard Specification for Portland Cement," *Annu. B. ASTM Stand.*, 2011.
44. ASTM, "Standard Specification for Silica Fume Used in Cementitious Mixtures," *Astm C1240*, 2012.
45. American Society of Testing Materials, "ASTM C494 Standard Specification for Chemical Admixtures for Concrete," 2013.
46. ASTM C109, "Standard Test Method for Compressive Strength of Hydraulic Cement Mortars," *ASTM Int. West Conshohocken*, 2000.
47. ASTM C1585, "ASTM C 1585:2004 Standard Test Method for Measurement of Rate of Absorption of Water by Hydraulic-Cement Concretes," *Am. Soc. Test. Mater.*, 2004.
48. M. Helmi, M. R. Hall, L. A. Stevens, and S. P. Rigby, "Effects of high-pressure/temperature curing on reactive powder concrete microstructure formation," *Constr. Build. Mater.*, vol. 105, pp. 554–562, 2016.
49. A. Wardhono, D. W. Law, and A. Strano, "The strength of alkali-activated slag/fly ash mortar blends at ambient temperature," in *Procedia Engineering*, 2015.
50. N. Hani, O. Nawawy, K. S. Ragab, and M. Kohail, "The effect of different water/binder ratio and nano-silica dosage on the fresh and hardened properties of self-compacting concrete," *Constr. Build. Mater.* 165 (2018) 504–513. <https://doi.org/10.1016/j.conbuildmat.2018.01.045>.
51. M. H. Al-Majidi, A. Lampropoulos, A. Cundy, and S. Meikle, "Development of geopolymer mortar under ambient temperature for in situ applications," *Constr. Build. Mater.*, 2016.

105.	Authors:	Anurag Jain, Sohiti Agrawal, Mukesh Pandey, Abhishek Thakur	
	Paper Title:	Effect of Partial Replacement of Sand and Cement with Lathe Scrap Fibre and Steel Fibre in Concrete	
	Abstract:	<p>Aim of this investigation was to study the effect of lathe scrap fibre and steel fibre replacement in concrete at different percentage so that we can achieve an improved and more durable concrete comparative to conventional concrete. Concrete is weak in tension and good in compression and also it is less ductile therefore, to terminate those weaknesses of concrete reinforcement bar is combine with it, but the reinforcement bar can't fulfil the requirement of mechanical strength of concrete so to fulfil the requirements lathe scrap fibre and steel fibre is added so that the better composite material is achievable. After the investigation on several researcher work, we find 1.2% to 1.5% of lathe scrap fibre or steel fibre replacement according to weight of concrete, this is the optimum replacement in concrete to improve mechanical strength. But according to another research paper in which fine aggregate is partially replaced by lathe scrap fibre at percentage of 15%, 30% and 60% by its weight and it also improves the mechanical strength in compare to conventional concrete. Therefore, the review study characterize the utilisation of lathe scrap fibre and steel fibre in FRC improves the tensile strength and provides better resistance for early crack development in concrete. And also inexpensive, easily available and furthermore best for retrofitting and shotcrete techniques.</p>	608-612
	Keywords:	– Lathe Scrap fibre, Compressive Strength, Split Tensile Strength, Flexural Strength, Concrete workability, FRC(Fibre reinforced concrete).	
	References:		

		<ol style="list-style-type: none"> 1. BhagyawatiM, LaxmiKantaSaha, Vikash Kumar, Mathew Varghese and AnjanSaha, "EXPERIMENTAL STUDY ON PROPERTIES OF CONCRETE BY PARTIAL REPLACEMENT OF FINE AGGREGATES WITH WASTE STEEL CHIPS", Vol 9, Issue 5, 2018, Page 912-918. 2. Ibrahimel.S. AndCheBakar, M.B., "Effects on Mechanical properties of Industrialised steel Fibre Addition to Normal Weight Concrete", Vol 14, 2011, Page 2616-2626. 3. K.Sudhakar, Ramakrishnan V R, Sarma S, Suganeswaran D and Boopathi V., "An Experimental Study On Flexural Behavior Of Concrete Using Lathe Scraps With Steel Fibres", Vol 6, Issue 4, 2018, Page 2161-2166. 4. Karththekeyan.T and Baskaran.K, "Experimental study on steel fibre reinforced concrete for G-30 concrete", Vol 8, Issue 16, 2016, Page 272-276. 5. Prof.Kumaran M, Nithi M.,Reshma, K. R., "Effect of Lathe Waste in Concrete as Reinforcement", Vol 10, Issue 11, 2015, Page 78-83. 6. Namrata M. Mannade, Prof.A.P.Khatri, "EXPERIMENTAL INVESTIGATION ON USE OF LATHE SCRAP STEEL FIBERS IN RIGID PAVEMENT", Vol 6, Issue 4, 2018, Page 8-11. 7. PoorvaHaldkar, Ashwini Salunke, "Analysis of Effect of Addition of Lathe Scrap on the Mechanical Properties of Concrete", Vol 5, Issue 4, 2016, Page 2321-2325. 8. Sajad Ahmad Mir, Kshiprakapoor, Mukesh Kumar, MohitKansal, "AN EXPERIMENTAL INVESTIGATION OF SCRAP STEEL REINFORCED WITH M20 CONCRETE", Vol 4, Issue 8, 2017, Page 1297-1299. 9. ZeeshanNissar Qureshi, YawarMushtaq Raina and Syed MohdAsgarRufaiie, "Strength CharacteristicsAnalysis of Concrete Reinforced With Lathe Machine Scrap", Vol 4, Issue 4, 2016, Page 210-217. 	
	Authors:	G. S. K. Gayatri Devi, S. Krishna Veni	
	Paper Title:	Design of CCAA for Optimized Difference Patterns	
	Abstract:	Difference patterns find applications in target tracking radars for accurate target detection. Such patterns must be generated with minimum sidelobe levels to reduce the effect of interfering signals like clutter, jamming signals. The present work is focused on designing concentric circular arrays(CCA) of practical elements producing low sidelobe difference patterns using thinning. Simulated results are presented for 6 ring and 7 ring concentric circular antenna arrays.	
	Keywords:	Concentric circular antenna arrays (CCAA), Differential Evolution Algorithm, Difference patterns, Peak Sidelobe level.	
	References:	<ol style="list-style-type: none"> 1. P. Ioannides and C. A. Balanis, —Uniform Circular Arrays for Smart Antennas, IEEE Transactions on Antennas and Propagation Society International Symposium, Monterey, CA, vol. 3, pp. 2796-2799, June 2004. 2. S. Krishna Veni and Dr. G.S.N.Raju, —Generation of Dual-beam Patterns using Particle Swarm Optimization, International Journal of Computer Applications.No.2. Vol.113, March, 2015. 3. S.Krishna Veni and Dr. G.S.N.Raju, —Pattern Synthesis using Particle Swarm Optimization International Journal of Modern Trends in Engineering and Research, vol.03, no.2,pp.309-316, 2016. 4. S. Krishna Veni and Dr. G.S.N.Raju, —Pattern Synthesis using Particle Swarm Optimization and Woodward Lawson Method, National Journal of Electromagnetic Compatibility, India, I.K. International publishing house pvt, Ltd., pp.13-17, Vol.24. No.1, 2014. 5. S.Krishna Veni, —Pattern Synthesis using Real Coded Genetic Algorithm, AMSE JOURNALS –2014-Series: Advances B; Vol. 57; No 2; pp 57-71, October 2014. 6. G. S. N. Raju, —Antennas and wave propagation, Pearson Education, 2005. 7. G. S. K. Gayatri Devi, G. S. N. Raju, P. V. Sridevi, —Application of Genetic Algorithm for Reduction of Sidelobes, AMSE JOURNALS–2015-Series: Advances B, vol. 58; No. 1, pp. 35-52, April 2015. 8. G. S. K. Gayatri Devi, G. S. N. Raju, P. V. Sridevi, —Generation of Narrow Beams using Differential Evolution Algorithm from Circular Arrays, International Journal of Computer Applications, vol. 112, No. 3, pp. 20-27, 2015. 9. E. T. Bayliss, —Design of monopulse antenna difference patterns with low side lobes, Bell System Technical Journal, vol. 47, pp. 623–640, 1968. 10. R. S. Elliot, —Antenna Pattens with Abitrary Side lobe Topography, 6th European Microwave Conference, Rome, Italy, pp. 283-287, Sep. 1976. 11. R. C. Hansen, —Array Pattern Control and Synthesis, Proc. IEEE, vol. 80, no. 1, pp. 141-151, Jan. 1992. 12. F. Ares, S. R. Rengarajan, A. Vieiro and E. Moreno, —Optimisation of aperture distributions for difference patterns, Antennas and Propagation Society International symposium, 1995, AP-S Digest, vol. 4, pp. 1826-1829, Jun. 1995. 13. R. Elliot, —Array Pattern synthesis part II: Planar Arrays, Antennas and Propagation Society Newsletter, IEEE, vol. 28, no. 2, pp. 4-10, Apr. 1986. 14. W. P. M. N. Keizer, —Amplitude-Only Low Sidelobe Synthesis for Large Thinned Circular Array Antennas, IEEE Transactions on Antennas and Propagation, vol. 60, no. 2, pp. 1157–1161, February 2012. 15. G. S. K. Gayatri Devi, —Synthesis Of Optimized Patterns from Thinned Arrays, International Journal of Innovative Technology and Exploring Engineering, vol. 8, No. 4S2, pp. 282-286, March 2019. 16. Kenneth V. Price, Rainer M. Storn and Jouni A. Lampinen, —Differential Evolution: A Practical Approach to Global Optimization, Springer, 2005. 17. R. Storn and K. Price, —Differential evolution—A simple and efficient heuristic for global optimization over continuous spaces, Journal of Global Optimization, vol.11, no. 4, pp. 341-359, 1997. 18. R. L. Haupt, —Optimized element spacing for low sidelobe concentric ring arrays, IEEE Transactions on Antennas and Propagation, vol. 56, No.1, pp. 266–268, January 2008. 	
106.			613-617
	Authors:	Md. Ariful Islam, Tanjima Akhter, Amena Begum, Md. Rakib Hasan, Farzana Sultana Rafi	
	Paper Title:	Brain Tumor Detection from MRI Images using Image Processing	
	Abstract:	Brain Tumor has become one of the common diseases in the world which can be characterized as the unhindered expansion of atypical cells in brain and when compared to tumors in other areas of the body, it gives rise to a challenge for diagnosis. But in the development of this disease along with the well-established image processing system, diagnosis becomes much easier. The thrust of this project is to provide possible methodology for detecting size and region of tumor quickly from MRI image using region splitting, merging and growing	618-623
107.			

based segmentation process within a short span of time. The whole process includes five stages namely Input as MRI images, preprocessing, enhancement of the image, image segmentation, feature extraction and classification of the tumor within boundary. Upon collection of MRI image, contrast enhancement and median filtering have used for enhancing the image and then segmentation process have done to detect the brain tumor. Graphical user interface has used for organizing input-output data and the algorithm has been designed by using MATLAB.

Keywords: MRI, GUI, Segmentation, Brain Tumor, Filtering, Enhancement, MATLAB.

References:

1. Md ShahariarAlam, Md Mahbubur Rahman, Mohammad Amazad Hossain, Md Khairul Islam, KaziMowdud Ahmed, KhandakerTakdir Ahmed,Bikash Chandra Singh and Md Sipon Miah.“Automatic Human Brain Tumor Detection in MRImage Using Template-Based K Means and ImprovedFuzzy C Means Clustering Algorithm”. Journal of Big data and Cognitive computing (MDPI). 13 May 2019
2. <https://www.abta.org/about-brain-tumors/brain-tumor-education/>
3. Sukanta Kumar Tulo, Madhusmruti Nayak, Manish Kumar, Khushboo. “Brain Tumor Detection from MRI Image usingDigital Image Processing”. International Journal of Engineering and Advanced Technology. ISSN: 2249 – 8958, Volume-6 Issue-4, April 2017
4. Debnath Bhattacharyya, Tai-hoon Kim.“Brain Tumor Detection Using MRI Image Analysis”. International Conference on Ubiquitous Computing and Multimedia Applications . PP 307-314, UCMA 2011
5. <https://www.thebraintumourcharity.org/get-involved/donate/why-choose-us/the-statistics-about-brain-tumours/>
6. Digvijay Reddy, Dheeraj, Kiran, Bhavana.V and Krishnappa H.K. “Brain Tumor Detection using Image Segmentation Techniques”. International Conference on Communication and Signal Processing, April 3-5, 2018, India.
7. Digital Image Processing, 2nd edition, Rafael C. Gonzalez and Richard E. Woods

108.	Authors:	Savitha A. P, Ramegowda	
	Paper Title:	New Fusion Techniques to Extract Image Features and Recognition of Palm Vascular Pattern	
	<p>Abstract: A strong and efficient Feature extraction algorithm is highly recommended for individual recognition in human authentication systems. This paper presents the work carried on palm vein image to extract features of the person vein for recognition and classification using improved canny edge detector. This paper describes a novel method to extract valuable features of the people’s vein pattern and achieving high recognition rate. The experiments carried using two algorithms 1) PCACE (principal component analysis with canny edge) algorithm and 2) LDACE (linear discriminant analysis with canny edge) algorithm. These two methods are analyzed on palm vein image and found LDACE algorithm is a best extractor compare to PCACE method. An Equal Error Rate (EER) is applied to evaluate two algorithms. Hidden Markova Model (HMM) is utilized for image feature classification and matching using contactless Palm Under Test (PUT) palm vein database. The percentage of recognition is measured by False Acceptance Ratio (FAR) and False Rejection Ratio (FRR). This method shows robust response with respect to human palm vein identification process computation time and improved recognition rate.</p> <p>Keywords: Contactless, EER, FAR, FRR, PUT, Recognition.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Shiram D Raut et al “Development of biometric palm vein trait based person recognition system” IEEE, 978-1-5090-424-7/17, March 2017. 2. Mr. Saagar Mukhopadhyay, Samir Kumar Bandyo padhyay “Palm Vein Authentication using Image classification Technique” Journal for Research, Volume 03, Issue 04 ,June 2017. 3. Sonali Valid et al “Comparative Analysis of palm-vein recognition system using basic transforms” IEEE, 978-1-4799-8047-5/15, December 2015. 4. Daniel Hartung, Martin Aastrup Olsen, “Spectral Minutiae for Vein Pattern Recognition”, Biometrics (IJCB)IEEE Conference, February 2011. 5. Herry Setiawan and Eko Mulyanto Yuniarno “Features Extraction of Palm Vein Image Using Phase Symmetry” International Conference on Instrumentation, Communications, Information Technology, and Biomedical Engineering (ICICI-BME), Bandung, November 2-3 2015. 6. Kama Nat Mishap, Kinder Aryan Mishap “Veins based Personal Identification Systems: a Review”, I.J. Intelligent Systems and Applications, No.10, pp.68-85, October 2016. 7. M. Al Juror, X. Wu, “Biometric Authentication System Based on Palm Vein”, International Conference Computer Science Applications, pp. 52–58, 2013. 8. G. K. O. Michael, T. Connie and A. T. B. Jin, “A preliminary acclimatization study of a contactless biometrics using palm vein feature”, IEEE Conference Industrial Electronics Application, pp. 1022–1027, 2011. 9. L. Wang, G. Leedham, and D.S. Cho. "Minutiae feature analysis for infrared hand vein pattern biometrics", Pattern Recognition, Vol.41, No. 3, pp. 920-929, 2008. 10. Y. Zhou and A. Kumar, “Human identification using palm-vein images”, IEEE Transaction Information Forensics Security, Vol. 6, No. 4, pp. 1259– 1274, 2011. 11. C. Nandini, Ashwini C, Medha Aparna, Nivedita Ramani, Pragnya Kini,Sheeba k, “Biometric Authentication by Dorsal Hand Vein Pattern”, International Journal of Engineering and Technology, Vol.2, May 2012. 12. Ishani Sarkar, Farkhod Alisherov, Tai-hoon Kim, and Debnath Bhattacharyya, “Palm Vein Authentication System: A Review”, International Journal of Control and Automation Vol. 3, No. 1, March, 2010. 13. Yuhang Ding, Dayan Zhuang and Kejun Wang, “A Study of Hand Vein Recognition Method”, The IEEE International Conference on Mechatronics & Automation Niagara Falls, Canada, pp. 2106-2110, July 2005. 14. Ross and A. K. Jain, "Information fusion in biometrics," Pattern Recognition Letters, vol. 24, no. 13, pp. 2115-2125, 2003. 15. Wang J.G, Yau, W.Y., Suwandu, A, “Fusion of palm print and palm vein images for person recognition based on laplacian palm feature”, Pattern Recognition, vol.3, pp. 1531–1544., 2008. 16. Mona A. Ahmed, El-Sayed M. El-Horbaty, Abdel-Badeeh M. Salem, “Intelligent Techniques for Matching Palm Vein Images”, Egyptian Computer Science Journal, Vol. 39 , ISSN-1110-2586, Jan 2015 		624-629

	17. http://www.cie.put.poznan.pl		
	Authors:	V. Krishna sree, Jeevan Sai, Sri Siri, Ruchitha, Saishma	
	Paper Title:	Smart Wrist Band for Women Safety	
109.	<p>Abstract: It has become quite difficult for today girls to move freely on streets. This has become a constant matter of worry and safety regarding their safety. There has been a tremendous increase the harassments against women these days. 54%of all the harassments registered are women harassments. We can't change the society but we can increase the security of girls. This proposed system for women consists of a wearable safety device which operates with sos button. This project is built using raspberry pi, GSM module and GSM modem. The sos button is provided in the band. If women get into any trouble, then if she presses sos button then the message is sent to registered mobile number. The message along with the location details is sent to the already registered mobile numbers and other emergency contacts. The location of the user is tracked using GPS. The LCD display will display the status of the project. This tracking system is a combination of raspberry pi, GPS receiver and GSM modem. The GPS receiver receives the location data from the satellite in the form of latitude and longitude. When a person presses the sos button, the raspberry pi processor processes this information and send it to the predefined registered mobile numbers through GSM modem. This research work can be applied in the safety sector for women. It reduces the crime rate against women to a major extent.</p> <p>Keywords: Wrist band Raspberry pi3, GSM, GPS, SOS, LED, and LCD.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Subhankar Shome,Rabindra Nath Bera."SMS Tracking System with Doppler Radar to Enhance Car Security for Intelligent Transport System", International Journal of Intelligent System and Applications, 2015. 2. Muskan, Teena Khandelwal, Manisha Khandelwal, Purnendu Shekhar Pandey. "Women Safert Device Designed Using IoT and Machine Learning", 2018. 3. Submitted to Universiti Teknologi Petronas. 4. Submitted to Jabatan Pendidikan Politeknik Dan Kolej Komuniti. 5. B. Sumathy, P.Deepan Shiva, P. Mugundhan, R. Rakesh, S. Sai Prasanth. "Virtual Friendly Device for Women Security", Journal of Physics:Conference Series, 2019. 		630-632
	Authors:	Krithika Balasubramanian, Akhil Kothari, Vijayakumar Kuppusamy	
	Paper Title:	Autonomous Driving in a Multi-Lane Highway Environment	
110.	<p>Abstract: Our goal through this paper is to figure out if it is possible to create an autonomous driving environment with a self-governing car with the help of a Q learning algorithm, a variant of Reinforcement Learning. To prepare and test-driving calculations, we convey a reproduced traffic framework simulation. We plan to split the environment around the agent vehicle into 16 states. The Q learning algorithms calculations, which are based on the Bellman's Equations, will help quantify the quality of each state, helping the agent make the right decisions in the environment to avoid collisions. The World health organization reports highlight that in 2019 there have been over 5 million reported road accidents with approximately 1.5 million causalities and an increase of 167% in road accidents over the last 15 years. Through this paper, we want to push the envelope concerning creating a more secure driving environment and help avoid unfortunate accidents and loss of lives.</p> <p>Keywords: Autonomous driving, Q Learning, Multilane, Reinforcement learning.</p> <p>References:</p>		633-637
111.	Authors:	K.Geetha	
	Paper Title:	Evolutionary Multivariate Kernal Svm Prediction Method for Classification	
	<p>Abstract: Thyroid disorders are common among the world wide population. This disorders posses' significant problems among Indians. Research studies shows that nearly 32% of Indian population suffers from various thyroid disorders. This paper deals with the thyroid data set which in turn classify into three groups as hyper thyroidisim, hypothyroidism and normal. The American Thyroid Association reported twelve percent of their citizens suffer from thyroidism in which 60% population are unaware of their condtions.. Above statistics implies the classification of thyroid disorder is crucial in global perspective too. The thyroid data set are collected from UCI repository and it is multivariate type with 21 attributes. With the 21 attributes only 10 attributes are selected based on their rank. Hybrid Differential Evolution Kernel Based SVM algorithm is used to classify the data set. It takes around 30 epochs to stabilize the errors. The classification accuracy is observed to be 67.97%.</p> <p>Keywords: Curse of Dimensionality , Classification ,Evolutionary algorithm , Multivariate data type ,Thyroid Data Set</p> <p>References:</p> <ol style="list-style-type: none"> 1. C. V. Subbulakshmi and S. N. Deepa, "Medical dataset classification: a machine learning paradigm integrating particle swarm optimization with extreme learning machine classifier," The Scientific World Journal, vol. 2015, Article ID 418060, 12 pages, 2015. 		638-640

	<ol style="list-style-type: none"> 2. Tapas Ranjan Baitharu & Subhendu Kumar Pani, "Analysis of Data Mining Techniques for Healthcare Decision Support System Using Liver Disorder Dataset", <i>Procedia Computer Science</i> 3. Volume 85, Pages 862-870, 2016. 4. Vert, Jean-Philippe, Koji Tsuda, and Bernhard Schölkopf (2004). "A primer on kernel methods". 5. Shashua, Amnon (2009). "Introduction to Machine Learning: Class Notes 67577". 	
	Authors:	Vikas Singhal, Yash Kumar Shukla, Navin Prakash
	Paper Title:	Image Steganography embedded with Advance Encryption Standard (AES) securing with SHA-256
	<p>Abstract: The proposed paper, works upon the idea of securing the classified information. This is achieved by using steganography which is an approach to hide classified information into some other file while maintaining its visual aids and secondly is cryptography which works upon textual data and transform it in a way that no one can comprehend it. The proposed method secures the weaker section which is the key in Advance Encryption Standard using hashing technique. The proposed work enhances the level of concealment of information from unauthorized access and for covert information exchange by encrypting the data and hiding it into a multimedia file known as image. The Secure Hash Algorithm 256 generates a hash key of 256 bits which is an unbreakable hashing technique after that the key is used in the process of encrypting the text with Advance Encryption Standard 256 which is an unbreakable encryption technique till this time and a cipher text is obtained. The cipher text is embedded into a target image using Least Significant Bit method which make changes in image that cannot be understand by naked eyes. The change in byte is 0.000002%. It ensures the visual quality of an image remains intact. The distortion or change in the image remains intermittent to human eyes. The major issue concerned for the government and security agencies such as were to exchange highly classified information in a secure and undetectable manner and abide the notion of hacker to comprehend any such information.</p> <p>Keywords- AES, Cryptography, Image steganography, LSB, SHA-256.</p> <p>References:</p>	
112.	<ol style="list-style-type: none"> 1. Provos, Niels, and Peter Honeyman. "Hide and seek: An introduction to steganography." <i>IEEE security & privacy</i> 99.3 (2003): 32-44. 2. Henri Gilbert and Helena Handschuh, "Security Analysis of SHA-256 and Sisters*", 2003. 3. Selent, Douglas. "Advanced encryption standard." <i>Rivier Academic Journal</i> 6.2, ISSN (Online): 2319-7064 Index Copernicus Value (2015): 78.96 ,(2010): 1-14. 4. United States National Security Agency (NSA), U.S. Department of Commerce, National Institute of Standards and Technology (NIST), Information Technology Laboratory (ITL), "Secure Hash Signature Standard (SHS) (FIPS PUB 180-2)", National Institute of Standards and Technology (NIST), 2001 : 9-22. 5. Charles G. Boncelet, Jr., Newark, DE (US); Lisa M. Marvel, Churchville, MD (US); Charles T. Retter, Belcamp, MD (US). "Spread spectrum and image steganography", 2003. 6. Po-Yueh Chen* and Hung-Ju Lin, "A DWT based approach for image steganography", DOI:10.6703/IJASE.2006. 4(3).275, 2006. 7. Domenico Bloisi and Luca Iocchi, "Image based steganography and cryptography", 2007. 8. Ali Al-Ataby and Fawzi Al-Naima, "A modified high capacity image steganography technique based on wavelet transform", Vol. 7, No. 4, October 2010. 9. Shailender Gupta, Ankur Goyal, Bharat Bhushan, "Information hiding using least significant bit steganography and cryptography", DOI: 10.5815/ijmecs.2012.06.04, 2012. 10. Saiful Islam*, Mangat R Modi and Phalguni Gupta "Edge-based image steganography", DOI: 10.1186/1687-417X-2014-8, 2014. 11. *Khan Muhammad, Jamil Ahmad, Haleem Farman, Muhammad Zubair, "A novel image steganographic approach for hiding text in color images using HSI color model", DOI: 10.5829/idosi.mejsr.2014.22.05.21946,2015. 12. Khan Muhammad, Jamil Ahmad, Muhammad Sajjad, Muhammad Zubair, "Secure image steganography using cryptography and image transposition", October 2015. 13. Mwaffaq Abu-Alhaja "Crypto-Steganographic LSB-based System for AES-Encrypted Data", (<i>IJACSA</i>) International Journal of Advanced Computer Science and Applications, Vol. 10, No. 10, 2019. 14. M. Rahul, M. Malathi, N. Satish Kumar, R. Thamaraiselvan, "Enhanced Image Steganography Using AES & SPIHT Compression", International Conference on Innovations in Information Embedded and Communication Systems (ICIIECS), March 2017, DOI: 10.1109/ICIIECS.2017.8276029. 	641-648
113.	Authors:	Saravanan K, Hareeharan E, MohamedIrfan A, Kalyan Kumar JS
	Paper Title:	Sensing Plant Disease Through the Utility of Deep Learning
	<p>Abstract: Crop diseases were one of a serious hazard to food preservation, but that the rapid identification continues tough against numerous segments regarding the globe's way to the shortage of mandatory infrastructure. The series of stimulating global Smart phone penetration including up to date advances also latest traits paved the way for deep Learning knowledge practicing public data sets of infected crops and also healthy plant leaves gathered beneath controlled stipulations, A deep CNN to pick out various crop species including its illnesses(disease) is developed. To verify the feasibility of this method that the trained model has to reach a great efficiency on a held-out check set. Then with the help of online sources testing the model toward a collection of pictures gathered from depended. The random selection is only supported by this accuracy implies an awful lot on the pinnacle, general accuracy can be boosted by the more various sets of training records. Overall, The way of training the deep gaining knowledge of forms on increasingly huge plus publicly to be had image data-sets provides a clear pathway closer to telephone-assisted crop ailment report on a big global scale.</p> <p>Keywords: Disease Detection, deep learning, Tensor flow.</p> <p>References:</p>	

	<ol style="list-style-type: none"> 1. Tai AP, Martin MV, Heald CL (2014) Threat to future global food security from climate change and ozone air pollution. <i>Nature Climate Change</i> 4(9):817–821. 2. TO-BE-Filled (2016) Pollinators are vital to our food supply under threat. 3. Strange RN, Scott PR (2005) Plant disease: a threat to global food security. <i>Phytopathology</i> 43. 4. UNEP (2013) Smallholders, food security, and the environment. 5. Harvey CA et al. (2014) Extreme vulnerability of smallholder farmers to agricultural risks and climate change in Madagascar. <i>Philosophical Transactions of the Royal Society of London B: Biological Sciences</i> 369(1639). 6. Sanchez PA, Swaminathan MS (2005) Cutting world hunger in half. 7. Ehler LE (2006) Integrated pest management (ipm): definition, historical development and implementation, and the other ipm. <i>Pest management science</i> 62(9):787–789. 8. ITU (2015) ICT facts and figures – the world in 2015. 9. Hughes DP, Salathé M (2015) An open access repository of images on plant health to enable the development of mobile disease diagnostics. CoRR abs/1511.08060 10. J. D. Pujari, R. Yakkundimath, and A. S. Byadgi, "Identification and classification of fungal disease affected agriculture/horticulture crops using image processing techniques," IEEE International Conference on Computational Intelligence and Computing Research, 2014.4. 					
114.	<table border="1"> <tr> <td>Authors:</td> <td>Vasanthi Vadlamudi, Divya Sree Ravi, Rishita Dhulipalla, Rohith Vamsi Danduboyina, K.S. Vijaya Lakshmi</td> </tr> <tr> <td>Paper Title:</td> <td>Product Quantization using Regression</td> </tr> </table> <p>Abstract: Approximate Nearest Neighbor (ANN) has developed an immense demand for many tasks. This ANN methodology was being used for product quantization. These product quantization methods were being used for e-commerce sites. However, this quantization maybe sometimes misleading due to a lack of accuracy in technique. So, we managed to increase the accuracy of quantization by adding Logistic Regression in the process. This helps to increase the accuracy of the method by having a probability value. This helps to make correlated items much more accurate when compared to pure quantization. This method is helpful for e-commerce sites for efficiency in the prediction of purchase by the customer.</p> <p>Keywords: Approximate nearest neighbor, product quantization, quantization, regression.</p> <p>References:</p> <ol style="list-style-type: none"> 1. L. Huang, Q. Yang and W. Zheng, "Online Hashing," in <i>IEEE Transactions on Neural Networks and Learning Systems</i>, vol. 29, no. 6, pp. 2309-2322, June 2018. 2. X. Liu, B. Du, C. Deng, M. Liu and B. Lang, "Structure Sensitive Hashing With Adaptive Product Quantization," in <i>IEEE Transactions on Cybernetics</i>, vol. 46, no. 10, pp. 2252-2264, Oct. 2016. 3. H. Jégou, M. Douze and C. Schmid, "Product Quantization for Nearest Neighbor Search," in <i>IEEE Transactions on Pattern Analysis and Machine Intelligence</i>, vol. 33, no. 1, pp. 117-128, Jan. 2011. 4. D. Xu, I. W. Tsang and Y. Zhang, "Online Product Quantization," in <i>IEEE Transactions on Knowledge and Data Engineering</i>, vol. 30, no. 11, pp. 2185-2198, 1 Nov. 2018. 5. M. Ghashami, A. Abdullah, "Binary coding in-stream", <i>CoRR</i>, vol. abs/1503.06271, 2015. 6. C. Leng, J. Wu, J. Cheng, X. Bai, H. Lu, "Online sketching hashing", <i>Proc. IEEE Conf. Comput. Vis. Pattern Recognit.</i>, pp. 2503-2511, 2015. 7. F. Cakir, S. Sclaroff, "Adaptive hashing for fast similarity search", <i>Proc. IEEE Int. Conf. Comput. Vis.</i>, pp. 1044-1052, 2015. 8. Q. Yang, L. Huang, W. Zheng, Y. Ling, "Smart hashing update for fast response", <i>Proc. Int. Joint Conf. Artif. Intell.</i>, pp. 1855-1861, 2013. 9. F. Cakir, S. A. Bargal, S. Sclaroff, "Online supervised hashing", <i>Comput. Vis. Image Understanding</i>, vol. 156, pp. 162-173, 2017. 	Authors:	Vasanthi Vadlamudi, Divya Sree Ravi, Rishita Dhulipalla, Rohith Vamsi Danduboyina, K.S. Vijaya Lakshmi	Paper Title:	Product Quantization using Regression	653-655
Authors:	Vasanthi Vadlamudi, Divya Sree Ravi, Rishita Dhulipalla, Rohith Vamsi Danduboyina, K.S. Vijaya Lakshmi					
Paper Title:	Product Quantization using Regression					
115	<table border="1"> <tr> <td>Authors:</td> <td>Nidhi Gautam, Sohiti Agrawal, Mukesh Pandey, Nikhil Nandwani</td> </tr> <tr> <td>Paper Title:</td> <td>Effect of Mixing of Rice Straw to Enhance the Characteristics of Soil</td> </tr> </table> <p>Abstract: The foundation should have sufficient strength to support any land based structure. The soil surrounding the foundation plays a very important role. The strength of soil should be maintained according to the loading conditions. The soil reinforcement process helps to attain the required engineering properties in soil for the construction purpose. The necessity of enhancing soil properties came to the light from the beginning of construction work. Soil reinforcement was used in India in 1970's but proper techniques and skilled labour was not available that's why in India ancient methods for soil reinforcement was using, show the soil reinforcement lots lost its importance. Recently, the demand for infrastructure, raw materials and fuel is improving show the process of soil reinforcement rising its importance up again. According to the better research, materials and equipment, soil reinforcement is the cost effective and popular method for improving the soil properties. Here, in this paper, soil reinforcement analysis completed with the mixing of soil with the powder produced from burning of rice straws fibers (parali) by an specific method. The main motive of this analysis is to find out the utilization of waste rice straw fiber materials in foundation construction without open burning of waste so we can reduce the pollution which create by the open burning of rice straw in the fields.</p> <p>Keywords: About four key words or phrases in alphabetical order, separated by commas.</p> <p>References:</p> <ol style="list-style-type: none"> 1. B. C Punmia, Seventh Edition, "Soil mechanics and foundation", Luxmi Publication, New Delhi, (2017). 2. Josefa Roselló and Lourdes Soriano, "Rice straw ash: A potential pozzolanic supplementary material for cementing systems", <i>Journal of Industrial Crops and Products.</i>, vol. 103, (2017), pp. 39-50. 3. Li Wei, Shou Xi Chai, Hu Yuan Zhang and Qian Shi, "Mechanical properties of soil reinforced with both lime and four kinds of fiber", <i>Journal of Construction and Building Materials</i>, vol. 172, (2018), pp. 300-308. 	Authors:	Nidhi Gautam, Sohiti Agrawal, Mukesh Pandey, Nikhil Nandwani	Paper Title:	Effect of Mixing of Rice Straw to Enhance the Characteristics of Soil	656-658
Authors:	Nidhi Gautam, Sohiti Agrawal, Mukesh Pandey, Nikhil Nandwani					
Paper Title:	Effect of Mixing of Rice Straw to Enhance the Characteristics of Soil					

		<ol style="list-style-type: none"> 4. Mohamed A. El-Sayed and Taher M. El-Samni , “Physical and Chemical Properties of Rice Straw Ash and Its Effect on the Cement Paste Produced from Different Cement Types ”, Journal of Eng. Sci. (I), vol. 19, (2006), pp. 21-30. 5. Aditya Kumar Anupam,Praveen Kumar and G D Ransinchung R, “Use of Various Agricultural and Industrial Waste Materials in Road Construction”, Proceedings of the 2nd Conference of Transportation Research Group of India (2nd CTRG), IIT Roorkee,India, (2013) 264-273. 6. Junjun LIU, Chanjuan JIA and Chunxia HE, “Flexural properties of Rice Straw and Starch Composites”, Proceedings of the AASR Conference on Modeling, Identification and Control China, (2012) 89-94. 	
	Authors:	Kowstubha Palle, A Bhanuchandar	
	Paper Title:	A Novel Modified Voltage Oriented Control of an Active Front-End Rectifier used for PMSG based Wind Turbine Systems	
	Abstract:	This Paper proposes a Novel and Modified Voltage Oriented Control (M-VOC) strategy of an Active Front-End (AFE) Rectifier that can give unity power factor at input side and regulated DC voltage at output side with reversible/bidirectional power flow. The proposed rectifier with M-VOC can find its place in applications like Wind energy conversion systems, DC load for electronic equipment, and adjustable AC drives. Simulation Analysis is done on this M-VOC strategy for an Active Front-End (AFE) Rectifier on MATLAB/Simulink platform with the verification on the validity of the proposed system. The proposed Rectifier with M-VOC strategy gives good transient/dynamic response for the variations of load at output side. It also gives a pure sinusoidal input current with the elimination of harmonics so that this proposed Rectifier can be used in the case of back to back 2/3 level voltage source converters of wind energy systems that supports bidirectional power flow.	
	Keywords:	Converter control, harmonics, dynamic response, Unity Power Factor, AFE Rectifier, Wind Energy Systems.	
	References:	<ol style="list-style-type: none"> 1. J.S Siva Prasad, T. Bhavsar, R.Ghosh, G.Narayanan, “Vector control of three-phase AC/DC front-end converter”, Sadhana Vol.33,Part 5, October 2008, pp.591-613. 2. Muhammad H Rashid, Power Electronics-Circuits, Devices, and Application, 3rd ed., 2004, Pearson Education. 3. Ned Mohan, Tore M. Underland, William P.Robbins, Power Electronics-Converters, Application and Design, 3rd ed.,2003, John Wiley & Sons. 4. L. Mihalache, “A high performance DSP controller for three-phase PWM rectifiers with ultra low input current THD under unbalanced and distorted input voltage”, IAS 2005, pp. 138-144. 5. J.R. Rodriguez, J.W. Dixon, J.R. Espinoza, J. Pontt, P. Lezana, “PWM regenerative rectifiers: stateof the art ”, IEEE trans. on Industrial Electronics, Vol.52, No.1, pp.5-22, February 2005. 6. J. Dannehl, C. Wessels, F. W. Fuchs, “Limitations of voltage-oriented PI current control of grid-connected PWM rectifiers with LCL filters”, IEEE Trans. on Ind. Electronics, Vol. 56, No. 2, February 2009, pp. 380- 388. 7. K. Jalili, N. Weitendorf, S. Bernet, “ Behaviour of PWM active front ends in the presence of parallel thyristor converters”, IEEE Trans. on Ind. Electronics, Vol. 55, No. 3, March 2008, pp. 1035-1046. J. Alcalá, E. Barcenás, V. Cardenas, “Practical methods for tuning PI controllers in the DC-link voltage loop in back-to-back power converters”, CIEP 2010, pp. 46-52. 8. J. A. Suul, M. Molinas, “Properties of reactive current injection by AC power electronic systems for loss minimization”, 15th International Power Electronics and Motion Control Conference, EPE-PEMC 2012 ECCE Europe, Novi Sad, Serbia, pp. 1-8. 9. J. W. Dixon, B. T. Ooj, “Dynamically stabilized indirect current controlled SPWM boost type 3-phase rectifier”, Conf. Rec. IEEE-IAS Annu. Meeting, 1988, pp. 700-705. 10. B. Singh, B. N. Singh, A. Chandra, K. Al-Hadded, A. Pandey, D. P. Kothari, “A review of three-phase improved power quality AC-DC converters”, IEEE Trans. on Ind. Electronics, Vol. 51, No. 3, June 2004, pp. 641-660. 11. M. Malinowski, M. P. Kazmierkowski, and A. M. Trzynadlowski, “A comparative study of control techniques for PWM rectifiers in AC adjustable speed drives,” IEEE Transactions on Power Electronics, vol. 18, no. 6, pp. 1390– 1396, November 2003 12. T. G. Habetler, “A space vector-based rectifier regulator for AC/DC/AC converters,” IEEE Transactions on Power Electronics, vol. 8, no. 1, pp. 30–36, January 1993. 13. T. Noguchi, H. Tomiki, S. Kondo, and I. Takahashi, “Direct power control of PWM converter without power-source voltage sensors,” IEEE Transactions on Industry Applications, vol. 34, no. 3, pp. 473–479, May/June 1998 14. M. Malinowski, M. Jasinski, and M. P. Kazmierkowski, “Simple direct power control of three-phase PWM rectifier using space-vector modulation (DPC-SVM),” IEEE Transactions on Industrial Electronics, vol. 51, no. 2, pp. 447–454, April 2004. 15. F. Blaabjerg, S. Hansen, and M. Liserre, “Design and control of an LCL filter based three-phase active rectifier,” in Proc. Conf. IEEE-IAS Ann. Conf., vol. 1, 2001, pp. 299–307. 	659-663
116.	Authors:	Abarna.A, Amuthavani.B, Varshini.V, Chidambaram.S	
	Paper Title:	Prediction of Emergency Admissions in Health Centres using Data Mining	
	Abstract:	In recent days, Emergency Department in healing centre is crowded, which causes negative consequences for patients. The internet is a crucial bridge for connecting patients with medical services. The data of the patients in healing centre contain data like physician note, x-ray radiology, discharge rundowns which are unstructured. In the predictive inspection, the free text is an essential part of patient records and it is necessary. To avoid this situation, the patient data should be analyzed, and the prediction should be made. Such a pathway can be created utilizing data mining procedures, which involves inspection and observing data to obtain vital data and knowledge through which decisions can be taken. Here the understanding focuses of intrigued are entered through a webpage that's put absent inside the database. Then administrative data from three different healing centre is applied to algorithms like Logistic Regression, CART decision tree for prediction, and its accuracy score is compared.	664-667
	Keywords:	Healthcare, Data mining, Emergency department, Logistic Regression, CART algorithm.	
	References:		

1. Farid Kadri, et.al., "An LSTM-based Deep Learning Approach with Application to Predicting Hospital Emergency Department Admissions," 2019.
2. Robert J.Steele and Brandon Thompson, "Data Mining for Generalizable Pre-admission Prediction of Elective Length of stay," 2019.
3. P. Sprivilis, et.al., "Access block causes emergency department overcrowding and ambulance diversion in Perth, Western Australia," *Emerg. Med. J.*, vol. 22, no. 5, pp. 351–354, 2005.
4. Guilan Kong, Dong-Ling Xu, Jian-Bo Yang, Tianbing Wang and Baoguo jiang, "Evidential Reasoning Rule-Based Decision Support System for Predicting ICU Admission and In-Hospital Death of Trauma," vol.16, pp.2168-2216, 2020.
5. D. B. Richardson, "Increase in patient mortality at 10 days associated with emergency department overcrowding," *Med. J. Aust.*, vol. 184, no. 5, pp. 213–216, 2017.
6. Miguel Monteiro et al., "Using Machine Learning to improve the prediction of Functional Outcome in Ischemic Stroke Patients," vol.15, no.6, pp.1953-1959, 2018.
7. Cameron, K. Rodgers, A. Ireland, R. Jamdar, and G. A. McKay, "A simple tool to predict admission at the time of triage," *Emerg. Med. J.*, vol. 32, no. 3, pp. 174–179, 2013.
8. Nawaf O.Alsrehin, Ahmad F.Klaib and Aws Magableh in "Intelligent Transportation and Control Systems Using Data Mining and Machine Learning Techniques," vol. 7, pp.49830-49857, 2019.
9. Minsu cho, Minseok song, Sooyoung yoo, and Hajo A. Reijers "An Evidence-Based Decision Support Framework for Clinician Medical Scheduling," vol. 7, pp. 15239-15249, 2019.
10. Stein kristiansen, Mari sonstebjugaas, Vera goebel, Thomas plagemann, Konstantinos nikolaïdis and Knut liestol, "Data Mining for Patient Friendly Apnea Detection," Vol. 6, pp. 74598-74615, 2018.
11. Dandan Jiang, Xiangfeng Luo, Junyu Xuan and Zheng Xu, "Sentiment Computing for the News Event Based on the Social Media Big Data," vol. 5, pp.2373-2382, 2016.
12. M. R. Baumann and T.D. Strout in "Triage of geriatric patients in the emergency department", *Annals of emergency medicine*, Volume 49, 2018,234-240.
13. J. Wang et.al., in "Patient admission prediction using a pruned fuzzy min max neural network with rule extraction" *Neural computing and applications*, Volume 26,2017,277-289.
14. Chenfei Sun, Zhongmin Yan, Qingzhong Li, Yongqing Zheng, Xudong Lu and Lizhen Cui in "Abnormal Group-Based Joint Medical Fraud Detection", Volume 7,2018,134589-13596.
15. S. L. Bernstein et al., "The effect of emergency department crowding on clinically oriented outcomes," *Acad. Emerg. Med.*, vol. 16, no. 1, pp. 1–10, 2009.

118.	Authors:	Amruth E , Sudev L J
	Paper Title:	"Characterization of Biodiesels Produced using Mixed Base Catalyst by Gas Chromatography & FTIR Spectroscopy"
	<p>Abstract: In this study, fish oil & cottonseed oils were used to produce their individual methyl esters using a mixed base catalyst (Sodium hydroxide & di-sodium phosphate). The produced biodiesels were characterized to check the quality of biodiesel and to establish the feasibility of using the mixed base catalyst for production of biodiesels. The biodiesel was characterized by FTIR (Fourier Transform infrared spectrometry) and GC (Gas Chromatography) tests and the other important properties of biodiesel were found out and compared with that of diesel. FTIR test confirms complete conversion of biodiesel from individual oils and the fuel properties were found to be within the range prescribed in ASTM standards. GC analysis has shown presence of more unsaturated fatty acids in cottonseed oil and less in fish oil biodiesel throwing some light on the stability of the fuels. The present characterization studies has established the potential use of mixed base catalyst during transesterification reactions.</p>	
	<p>Keywords: FTIR, GC, RSM, Mixed base catalyst.</p>	
	<p>References:</p>	
	<ol style="list-style-type: none"> 1. Basha, S. A., K. R. Gopal, and S. Jebaraj. 2009. A review on biodiesel production, combustion, emissions and performance. <i>Renewable and Sustainable Energy Reviews</i> 13:1628–34. 2. Agarwal, A. K. 2007. Biofuels (alcohols and biodiesel) applications as fuels for internal combustion engines. <i>Progress in Energy and Combustion Science</i> 33:233–71. 3. Manjunath H, Omprakash Hebbal & Hemachandra Reddy K., Process Optimization for Biodiesel Production from Simarouba, Mahua, and Waste Cooking Oils, <i>International Journal of Green Energy</i> (2015) 12, 424–430 Copyright © Taylor & Francis Group, LLC ISSN: 1543-5075 print / 1543-5083 online DOI: 10.1080/15435075.2013.845100. 4. Margaroni, D. 1998. Fuel lubricity. <i>Industrial Lubrication and Tribology</i> 50(3):108–18. 5. Knothe, G. and K. S. Steidley. 2005. Kinematic viscosity of biodiesel fuel component and related compounds: Influence of compound structure and comparison to petrodiesel fuel components. <i>Fuel</i> 84:1059–65. 6. Yamane, K., A. Ueta, and Y. Shimamoto. 2001. Influence of physical and chemical properties of biodiesel fuels on injection, combustion and exhaust emission characteristics in a direct injection compression ignition engine. <i>International Journal of Engine Research</i> 2:249–61 7. Manish Jain, Amit Pal, Vineet Kumar, Life cycle management of Cottonseed oil, <i>International Journal of Current engineering and Scientific Research (IJCESR)</i>, ISSN: 2393-0697, Volume 2, Issue 8, 2015. 8. F D Gun Stone, J L Harwood, <i>The lipid handbook</i> third edition CRC Press, Boca Raton, FL 2007. 9. Umre Rashid, Farooq Anwar, Gerhard Knothe, Evaluation of biodiesel obtained from cottonseed oil, <i>Fuel Processing Technology</i> 90(2009) 1157-1163. 10. FAO-Food & Agricultural Organization. <i>The state of world Fisheries and aquaculture</i>, Rome: 2006. 11. V R Wiggers, A. Wisniewski Jr, L.A.S. Madureira, A.A.Chivanga Barros, H. F. Meier, <i>Fuel</i> 88 (2009) 2135-2141. 12. K. V. Yatisha, H. S. Lalithambaa, R. Sureshb and B. R. Omkareshb., Synthesis of biodiesel from <i>Garcinia gummi-gutta</i>, <i>Terminalia bellerica</i> and <i>Aegle marmelos</i> seed oil and investigation of fuel properties, ISSN: 1759-7269 (Print) 1759-7277 (Online) <i>Journal homepage: http://www.tandfonline.com/loi/tbfu20</i>, 2016. 13. Leonardo S.G, Teixeira, Marcelo B. Couto, Giancarlo S. Souza, Miguel Andrade Filho, Julio C. R. Assis, Paulo R.B. Guimaraes, Luiz A.M. Pontes, Selmo Q. Almeida, Josanaide S.R. Teixeira, Characterization of beef tallow biodiesel and their mixtures with soybean biodiesel and mineral diesel fuel., <i>Biomass and Energy</i> 34(2010) 438-441. 14. Sylvester O'Donnell, Innocent Demshemino, Muhammad Yahaya, IsionaNwadike, Linus Okoro. A review on the spectroscopic Analyses of Biodiesel, <i>European International Journal of Science & Technology</i> 2013: 2(7): 137-146. 15. William Kemp, <i>Organic Spectroscopy</i>, 3rd Edition, Macmillan, 2009. 16. Lang X. Dalai AK, Bakhshi NN, Reany MJ, Hertz PB. Preparation and characterization of Bio-diesels from various bio-oils, <i>Bioresour Technol</i> 2001;80:53-62. 	
		668-672

	17. http://people.umass.edu/~mcclemen/581Lipids.html .	
	18. "Optimization of Transesterification Reaction Parameters For Fish Oil Biodiesel Production: A Response Surface Methodology Approach". Journal of Physics: Conference Series: 2019 J. Phys.: Conf. Ser.1240 012140, Conf. Series1240 (2019) 012140IOP Publishingdoi:10.1088/1742-6596/1240/1/012140, NFEST-2019, NIT,Kurukshetra.	
119.	Authors:	Nirmal Kanti Chakrabarti, Arpita Mitra
	Paper Title:	Civil Liability to Nanotechnology Products: An Appraisal with Special Reference to Strict Liability
	<p>Abstract: The present advantage of progress in terms of materials and their application is very much discernible in nanotechnology products. By using nanotechnology products there can be instances in which people will suffer harm and sometime death too. Some of these harm may be accidental and manufacturers may have no clue of it. However, in some cases it may happen that the producer or manufacturer knowingly release the products for economic benefits and undertook associated risks. In theoretical perspective strict liability focus more on the no fault theory rather than conduct or behavior of the manufacturers or the learned intermediaries. Thus, a manufacturer of nanotechnology product will be liable for distributing defective products directly to consumers or through retailers or distributors. At the same time the plaintiff must prove that the defect in question was the actual and proximate cause of injury and it incurred damages. In this paper an attempt has been made to examine critically the risks and civil liability, especially strict liability under Tort law of nanotechnology products.</p> <p>Keywords: Civil liability, nanotechnology, strict liability, tort.</p> <p>References:</p> <ol style="list-style-type: none"> 1. J.C.Bosso ed.,Governing Uncertainty, Environmental Regulation in the Age of Nanotechnology,London: RFF Press,2010,pp.xiv. 2. M.S. Rajan, Nano: The Next Revolution, New Delhi:National Book Trust,2005, pp.161. 3. M.P.Boucher, Nanotechnology: Legal Aspects, New York:CRC Press, Taylor & Francis Group,2008, 2008,pp.153. 4. M.P.Boucher, Nanotechnology: Legal Aspects, New York:CRC Press, Taylor & Francis Group, 2008, pp.154. 5. R.F.V.Heuston, Salmond on Law of Torts, Twelfth Edition, London: Sweet & Maxwell Limited, 1957,pp.391. 6. R. Ratanlal and K.T.Dhirajlal Keshavlal, (1982) The Law of Torts, Nagpur:Wadhwa Sales Corporation, 1982, pp.397. 7. R.W.M.Dias and B.S. Marquesinis, Tort Law,New York: Oxford University Press, 1984, pp.105-106 8. G.Hunt & M.Mehta ed. Nanotechnology: Risk, Ethics and Law, London:Earthscan, First South Asian Edition, 2007, pp.245. 	
120.	Authors:	S. D. Pawar, R. P. Badde, T. G. Raut, A. S. Chorge, O. V. Dixit
	Paper Title:	Wind Mill Shaft Optimization Based on layer Orientation Angles using Composite Materials
	<p>Abstract: This paper presents an application of Finite Element Analysis (FEA) for strength improvement of wind mill shaft. Also provides fundamental knowledge of transmission shaft analysis using composite material. The existing shaft is modeled using CATIA and analyzed using ANSYS 16.0. The results for stresses generated are shear stress 68.298MPa, von-mises stress 119.2MPa and deformation is 3.3905mm. First optimization is done based on fibre orientation angles of composite material. Further alternate material selection is done through study and optimization analysis is done for the same. Carbon epoxy-UD selected as material and gives final stresses as 22.974MPa and deformation is 1.255mm. The torsion deflections were obtained experimentally. The results of experimental study and FEA results are found same as infinite life.</p> <p>Keywords — Wind mill shaft; Optimization; composite material; fiber orientations.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Chris J. Burgoyne, Cambridge, UK "Advanced Composites in Civil Engineering in Europe" at Structural Engineering International report 4/99. 2. Branislav Duleba, Frantisek Greskovic " Simulation of Loading the Polymer/Carbon Fiber Composites and Prediction of Safety Factors" at International Journal of Engineering and Innovative Technology (JEIT) ISSN: 2277-3754, Volume 2, Issue 8, February 2013 3. Darren A. Baker, Timothy G. Rials "Recent Advances in Low-Cost Carbon Fiber Manufacture from Lignin" at Journal of Applied Ploymer Science DOI: 10.1002/APP.39273, 2013. 4. Luiz Claudio Pardini, Maria Luisa Gregori "Modeling elastic and thermal properties of 2.5D carbon fiber and carbon/SiC hybrid matrix composites by homogenization method" at International Journal of Aerospace Technology Management, Sao Jose dos Campos, Vol.2, No.2, pp. 183-194, May-Aug., 2010. 5. Patil Deogonda, Vijaykumar N Chalwa "Mechanical Property of Glass Fiber Reinforcement Epoxy Composites" at International Journal of Scientific Engineering and Research (IJSER) ISSN (Online): 2347-3878 Volume 1 Issue 4, December 2013. 6. H. Kim, H. T. Hahn, E. Bekyarova, E. Oh, G. Lee "Carbon Fiber Composites Reinforced With Carbon Nanomaterials" at 18th International Conference On Composite Materials. 7. Mark Bruderick, Douglas Denton and Michael Shinedling, Of DaimlerChrysler Corporation and Michael Kiesel, Quantum Composites Inc. "Applications of Carbon Fiber Smc for the Dodge Viper" Case Study. 	
121.	Authors:	Pratik D. Kale, Anujkumar S. Tiwari
	Paper Title:	Big Data for Surveillance in Mobility Sector: Application and Opportunities
	<p>Abstract: Everyday technologies are evolving with rapid pace. Domain relevant innovations are the driving force in achieving new milestones in different technical sector. This paper resolves issues related to surveillance of Road Transport and Mobility Sector. There are a couple of domains which are marking their concrete existence in almost every field, like Big Data and Internet of Things (IoT). Big Data is an integral part of Data Science which deals with massive amount of data. When we talk about collecting data, there is no big source</p>	

than internet. Internet of Things (IoT) plays a credible role in information generation from different locations using different devices and collecting the raw data to a centralized location, where the pennies will add up to a dollar, i.e. the small amount of data from different location when collected at one place will add up to the pool of data, which scale up from terabytes to 10s of petabytes, and thus we term it as Big Data. Road Transport and surveillance sector has a wide variety of problems, ranging from illegal breaching of vehicles without paying Toll taxes at Toll Plaza, to Violation of Traffic Signal law. All these problems can be eradicated by making use of hot technologies which uses a centralized system to handle these issues effectively and efficiently, Big Data is one such Technology. Big Data Analytics can help in optimizing operating procedure at such places.

Keywords: Transport, Mobility, Big Data, IoT, Surveillance, Computer Vision.

References:

1. Ana Isabel Torre-Bastida¹, Javier Del Ser^{1,2,3}, Ibai Lañal, Maitena Iardial, Miren Nekane Bilbao², Sergio Campos-Cordobés¹ TECNALIA, 48160 Derio, Bizkaia, Spain² University of the Basque Country (UPV/EHU), 48013 Bilbao, Bizkaia, Spain³ Basque Center for Applied Mathematics (BCAM), 48009 Bilbao, Bizkaia, Spain
2. Nallaperuma, D., Nawaratne, R., Bandaragoda, T., Adikari, A., Nguyen, S., Kempitiya, T., ... Pothuhera, D. (2019). Online Incremental Machine Learning Platform for Big Data-Driven Smart Traffic Management. IEEE Transactions on Intelligent Transportation Systems, 1–12. doi:10.1109/tits.2019.2924883
3. <https://ieeexplore.ieee.org/document/7460382>
4. <https://ieeexplore.ieee.org/document/7888916>
5. li zhu, fei richard yu, "big data analytics in intelligent transportation systems: a survey", IEEE transactions on intelligent transportation systems, vol. 20, no. 1, january 2019.

Authors: Kalpana P M, Vanitha R, Priyadharshini P, Uma Maheswari M

Paper Title: MPPT Controller based Nine Level Inverter using Solar Power Generation System

Abstract: This project proposed a solar power generation system is used for the MPPT (maximum power point tracker) controller in a nine-level inverter. The selection of the capacitor circuit is configured using nine-level inverter and a cascade-connected to the full-bridge power converter. The nine-level inverter contains seven powers. Electronic switches simplify the configuration of the circuit system. A single electronic power switch is switched to the high frequency at any time to generate a nine-level output voltage. The output of the photovoltaic solar panel system will be fed into an MPPT algorithm to obtain a maximum amount of energy from a photovoltaic system, and this technique is used for the generation of residential renewable energy. The output voltage of a photovoltaic solar system is completed by the use of the DC-DC power converter with independent voltage sources for an inverter and reduces the harmonics generated. The nine-level inverter reduced with switches in power generation.

Keywords: DC-DC boost converter, Nine level inverter, Multilevel inverter, PWM, Solar panel, MTPP Controller.

References:

1. A. Gaga, F. Errahimi and N. Es-Sbai, "Design and implementation of MPPT solar system based on the enhanced P&O algorithm using Labview," , pp. 203-208, doi: 10.1109/IRSEC.2014.7059786, 2014 International Renewable and Sustainable Energy Conference (IRSEC), Ouarzazate, 2014
2. M. Rokouzzaman and M. Hossam-E-Haider, "Design and implementation of maximum power point tracking solar charge controller," pp. 1-5, doi: 10.1109/CEEICT.2016.7873139, 2016 3rd International Conference on Electrical Engineering and Information Communication Technology (ICEEICT), Dhaka, 2016,
3. O. Singh and S. K. Gupta, "A review on recent Mppt techniques for photovoltaic system," , pp. 1-6, doi: 10.1109/ETECHNXT.2018.8385315, 2018 IEEMA Engineer Infinite Conference (eTechNxT), New Delhi, 2018.
4. A. Durgadevi, S. Arulselvi and S. P. Natarajan, "Study and implementation of Maximum Power Point Tracking (MPPT) algorithm for Photovoltaic systems," , Newport Beach, CA, 2011, pp. 240-245, doi: 10.1109/ICEES.2011.5725336, 2011 1st International Conference on Electrical Energy Systems.
5. S. Kumar Roy, S. Hussain and M. A. Bazaz, "Implementation of MPPT technique for solar PV system using ANN," 2017 Recent Developments in Control, Automation & Power Engineering (RDCAPE), Noida, 2017, pp. 338-342, doi: 10.1109/RDCAPE.2017.8358293.
6. S. Kundu, N. Gupta and P. Kumar, "Review of solar photovoltaic maximum power point tracking techniques," 2016 7th India International Conference on Power Electronics (IICPE), Patiala, 2016, pp. 1-6, doi: 10.1109/IICPE.2016.8079494.
7. M. Pathare, V. Shetty, D. Datta, R. Valunjkar, A. Sawant and S. Pai, "Designing and implementation of maximum power point tracking(MPPT) solar charge controller," 2017 International Conference on Nascent Technologies in Engineering (ICNTE), Navi Mumbai, 2017, pp. 1-5, doi: 10.1109/ICNTE.2017.7947928.
8. B. Subudhi and R. Pradhan, "A Comparative Study on Maximum Power Point Tracking Techniques for Photovoltaic Power Systems," in IEEE Transactions on Sustainable Energy, vol. 4, no. 1, pp. 89-98, Jan. 2013, doi: 10.1109/TSTE.2012.2202294.
9. A. S. Ahmed, B. A. Abdullah and W. G. A. Abdelaal, "MPPT algorithms: Performance and evaluation," 2016 11th International Conference on Computer Engineering & Systems (ICCES), Cairo, 2016, pp. 461-467, doi: 10.1109/ICCES.2016.7822048.
10. B. Pakkiraiah and G. D. Sukumar, "A new modified MPPT controller for solar photovoltaic system," 2015 IEEE International Conference on Research in Computational Intelligence and Communication Networks (ICRCICN), Kolkata, 2015, pp. 294-299, doi: 10.1109/ICRCICN.2015.7434253.
11. W. Xiao, A. Elnosh, V. Khadkikar and H. Zeineldin, "Overview of maximum power point tracking technologies for photovoltaic power systems," IECON 2011 - 37th Annual Conference of the IEEE Industrial Electronics Society, Melbourne, VIC, 2011, pp. 3900-3905, doi: 10.1109/IECON.2011.6119946.
12. K. Deepti, P. Srihari and M. Achari, "Design analysis and implementation of MPPT based controlling mechanism for improving the efficiency of solar Photovoltaic based operated system," 2017 11th International Conference on Intelligent Systems and Control (ISCO), Coimbatore, 2017, pp. 260-264, doi: 10.1109/ISCO.2017.7855993.

123.	Authors:	Hema Singaravelan, Ravi S.		
	Paper Title:	64bit Hybrid Adder for ALU Design Applications		
	<p>Abstract: The Arithmetic Logic Unit is an important component of any Central Processing Unit. An improvement of the speed, area, and power consumption of an ALU directly promotes the performance of the system. Thus, optimization of the ALU design is necessary and for this reason several common adders such as the ripple carry adder, etc. and a proposed model of a 64bit hybrid adder were designed, and a comparative analysis of their performance was studied. The proposed hybrid adder was developed using an 8bit Ripple Carry adder that evaluates the LSB followed by a Carry skip adder block consisting of a 4bit Carry Skip Adder, an 8bit Carry Skip, another 8bit Carry Skip, followed by a 4bit Carry Skip Adder, and finally the MSB is calculated by a 32bit Carry Select Adder. The adders were designed in Verilog on ModelSim-Altera 10.1d (Quartus II 13.0sp1) and later the schematic was obtained on Genus Synthesis (RTL Compiler) of Cadence for ASIC design using 45nm technology. Each adder showed some advantages, but the proposed hybrid adder optimized all aspects of the model while increasing the speed of the device.</p> <p>Keywords: – ALU, Ripple Carry Adder, Carry Look Ahead Adder, Carry Save Adder, Carry Select Adder, Carry Skip Adder, Hybrid Adder, ASIC, Binary Multiplier, Divider, Control Unit, Delay, Area, Power Consumption, Optimization, Cadence Genus Synthesis (RC)</p> <p>References:</p> <ol style="list-style-type: none"> 1. Padmanabhan Balasubramanian, Nikos Mastorakis, “High Speed Gate Level Synchronous Full Adder Designs”,in WSEAS Transactions on Circuits and Systems, 2009, pp. 8(2):290-300 2. Ramesh Boda, M.Charitha, B.Yakub, R.Sayanna, “Multiplexer-Based Design of Adders/Subtractors and Logic Gates for Low Power VLSI Applications”, in IOSR Journal of VLSI and Signal Processing (IOSR-JVSP), 2015, Volume 5, Issue 6, Ver. II, pp. 59-66 3. Habib Ghasemzadeh, Akbar Ghasemzadeh Tamar, Khayrollah Hadidi, Abdollah Khoei, Pourya Hoseini, “High speed area reduced 64-bit static hybrid carry-lookahead/carry-select adder”, in 18th IEEE International Conference on Electronics, Circuits and Systems (ICECS 2011), 2011 4. Rashmi Rahul Kulkarni, “Comparison among Different Adders”, in OSR Journal of VLSI and Signal Processing (IOSR-JVSP), 2015, Volume 5, Issue 6, Ver. I, pp. 01-06 5. Jasbir Kaur, Lalit Sood, “Comparison Between Various Types of Adder Topologies”, in IJCST, 2015, Vol. 6, Issue 1 6. Shubham Sarkar, Sujan Sarkar, Jishan Mehedi, “Comparison of Various Adders and their VLSI Implementation”, IEEE International Conference on Computer Communication and Informatics (ICCCI), 2018 7. Ravi S., Shaji Nair, Rajeev Narayan, H. M. Kittur, “Low Power and Efficient Dadda Multiplier”, Research Journal of Applied Sciences, Engineering and Technology, 2015, pp. 9(1):53-57 8. Shahzad Asif, Yinan Kong, “Low-Area Wallace Multiplier”, Hindawi Publishing Corporation, 2014 9. Sudhir Bussa, Ajaykumar Rao, Aayush Rastogi, “Design of Binary Multiplier Using Adders”, International Journal of Electrical and Electronics Research, 2016, Vol. 4, Issue 1, pp: 169-173 			694-698
124.	Authors:	Karishma Mittal, Sohiti Agrawal, O.P.S Bhadoria, Mukesh Pandey		
Paper Title:	Sustainability and limitation of Plastic Modified Bituminous Interlocked Paving Block: A Supervision		699-701	
<p>Abstract: Without the use of a binder, Interlocking paving blocks locked each other and built a stable pavement structure which suitable for sidewalk, footpath and non-traffic area etc. that reduces the construction time and cost both. A huge amount of natural and industrial materials such as cement, bitumen, aggregate and other additives are employed in pavement construction and maintenance at the same time on the other hand plastic waste generation increases day by day which becomes an eyesore. It has been suggested by the researchers that plastic can sustain 4500 years without its degradation. 6 billion tones of plastic has been produced from 1950 to 2018 out which 12% and 9% have been incinerated and recycled but 79% left as untreated. This paper provides an guidance that waste plastic improves the rheological property of binder as well as the physical-mechanical property of interlocking pavement block if it combine with Bitumen. Through this investigation, an attempt also made to identify and suggest a possible use of plastic in the paving block so that dumping and land filling problem of waste plastic can reduce.</p> <p>Keywords: Bitumen, Paving Block, Plastic Waste, Compressive strength.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Samuel Kofi Tulashie and Enoch Kofi Boadu(2020) Plastic wastes to pavement blocks: A significant alternative way to reducing plastic wastes generation and accumulation in Ghana, Construction and Building Materials 241 (2020) 118044 2. Sudheer Ponnada and Vamsi Krishna K.(2020) Experimental investigation on modification of rheological parameters of bitumen by using waste plastic bottles, Materials Today: Proceedings xxx (xxxx) xxx, Article in press. 3. S. Agyeman and N.K. Obeng-Ahenkora. (2019) Exploiting recycled plastic waste as an alternative binder for paving blocks production, Case Studies in Construction Materials 11 (2019) e00246. 4. Huayang Yu and Zihan Zhu. (2019) Recycling waste packaging tape into bituminous mixtures towards enhanced mechanical properties and environmental benefits, Journal of Cleaner Production 229 (2019) 22-31 5. Arvind Singhal and Dr. Omprakash Netula. (2018) Utilization of plastic waste in manufacturing of plastic sand bricks, Journal of Emerging Technologies and Innovative Research (JETIR), ISSN-2349-5162, Volume 5, Issue 6 6. Jayvant Choudhary and Brind Kumar (2018) Application of waste materials as fillers in bituminous mixes, Waste Management 78 (2018) 417–425. 7. Shubham Bansal and Anil Kumar Misra. (2017) Evaluation of modified bituminous concrete mix developed using rubber and plastic waste material, International Journal of Sustainable Built Environment (2017) 6, 442–448 8. Dinesh.S and Dinesh.A.(2016) Utilisation of waste plastic in manufacturing of bricks and paver blocks, International Journal of 				

	Applied Engineering Research, ISSN 0973-4562 Vol. 11 No.3		
	9. Imran M. Khan and Shahid Kabir. (2016)Asphalt Design using Recycled Plastic and Crumb-rubber Waste for Sustainable Pavement Construction, International Conference on Sustainable Design, Engineering and Construction, Procedia Engineering 145 (2016) 1557 – 1564.		
	Authors:	Vitalii Fesokha, Igor Subach, Volodymyr Kubrak, Artem Mykytiuk, Stanislav Korotaiev	
	Paper Title:	The Method of Logic Cyber Attack Detection of Abuse Functionality Type on Nginx Http-Server and Apache on the Basis of Fuzzy Logic	
125.	<p>Abstract: The article presents a method of abuse detection functionality of the most common open source http-servers Nginx and Apache, which currently implement a full web stack and serve more than 60% of traffic on the Internet. The proposed method is based on the application of the mathematical apparatus of fuzzy set theory and fuzzy inference to the selected analysis parameters corresponding to the properties of a logical cyber attack that realizes the vulnerability of web server data. To obtain the most accurate results of fuzzy inference the direction of adaptation of membership functions to the conditions of server operation (changes on the server and analysis of client behavior) based on the application of the mathematical apparatus of genetic algorithms is determined.</p> <p>Keywords: http-server, abuse, fuzzy logic, genetic algorithms.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Global Web Server Rating 2020. [Online]. Available: https://ru.hostadvice.com/marketshare/server/. 2. Matthew Mombrea. (2015, Oct 1). Why your Nginx server is responding with content from the wrong site. [Online]. Available: https://www.itworld.com/article/2987967/why-your-nginx-server-is-responding-with-content-from-the-wrong-site.html. 3. Why is Nginx responding to any domain name. Active: Aug, 2018. [Online].Available: https://stackoverflow.com/questions/9824328/why-is-nginx-responding-to-any-domain-name. 4. Maksym Baiev. (2019, January 18). Ban on processing non-existent domains. Nginx. [Online].Available: https://mbaev.com/posts/zapret-na-obrabotku-nesuschestvuuschih-domenow-nginx. 5. Ryan O'Leary. (2017, May 17). Abuse of Functionality: The Intersection of Application Security and Ransomware. [Online].Available: https://www.whitehatsec.com/blog/abuse-of-functionality/. 6. (Informit) Ryan C. Barnett. (2006, Feb 17). Mitigating the WASC Web Security Threat Classification with Apache. [Online].Available: https://www.informit.com/articles/article.aspx?p=442984&seqNum=9. 7. (InfoSecPro). Abuse of Functionality. [Online].Available: http://www.infosecpro.com/applicationsecurity/a61.htm. 8. Shanmugavadivu R., N. Nagarajan. "Network intrusion detection system using fuzzy logic". Indian Journal of Computer Science and Engineering (IJCSSE), ISSN : 0976-5166. – 2011. – Vol. 2, No1. – C. 101 – 111. 9. J. Alam, Dr. M. K. Pandey. "Advance Cyber Security System using fuzzy logic", ACME: Journal of Management &IT, Vol: 10, Issue 1, September 2014 ISSN: 0974-1763. 10. D. K. Levonevskiy ; R. R. Fatkueva ; S. R. Ryzhkov. "Network attacks detection using fuzzy logic". 2015 XVIII International Conference on Soft Computing and Measurements (SCM). 19-21 May 2015. 11. Ihor Subach, Vitalii Fesokha. "Model of detecting cybernetic attacks on information-telecommunication systems based on description of anomalies in their work by weighed fuzzy rules". Information technology and security, vol. 5, iss. 1, pp. 29-41, 2017. 12. Y. Mitiushkin, B. Mokin, A. Rotshtein. "Soft Computing: identification of patterns by fuzzy knowledge bases". Monograph – Vinnytsia. UNIVERSE – 2002. – 145 c. 		702-705
126.	Authors:	Ramkrishna V. Yenkar, Manoj Kumar Nigam	
	Paper Title:	Realization of Linear and Non-linear circuits with Variable Gain DVCC	
	<p>Abstract: The analog circuits are two types; linear and non-linear. The analog circuits are, might be, with or without feedback. In general, linear circuits need negative feedback while negative or positive feedback needed in non-linear circuits. Here, the VG-DVCC is proposed for the realization of linear and non-linear circuits. Basically, this VG-DVCC is a low-gain active network block. Thus, feedback is not needed for the realization of linear circuits whereas non-linear circuits needed feedback. This paper highlights the realization of linear circuits: Instrumentation Amplifiers, Active Filters, and nonlinear circuits: Schmitt Trigger comparator, Square wave generator with variable gain differential voltage current conveyor. The performance is validated by simulation using ADS.</p> <p>Keywords: Current Conveyor, Instrumentation Amplifier, Linear and nonlinear circuits, Square wave Generator.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Franco, S. Design with operational amplifiers and analog integrated circuits. New York: McGraw-Hill, 1988, pp. 42-95 2. Parodi, M., & Storage, M. Linear and nonlinear circuits: Basic & advanced concepts. New York: Springer, 2018 3. The basics of linear vs. nonlinear circuits. [Blog] (2019, August 29). Retrieved from https://resources.pcb.cadence.com/blog/2019-the-basics-of-linear-vs-nonlinear-circuits 4. Agarwal T. "What Are Linear and Non-Linear Circuits and It's Differences?" ElProCus, 2013. https://www.elprocus.com/linear-and-non-linear-circuit-with-differences/ 5. The Main Difference between Linear and Nonlinear Circuit, [Article] (2013). Retrieved from https://www.electricaltechnology.org/2013/12/the-main-difference-between-linear-and-nonlinear-circuits.html/ 6. Yenkar R. V., Pande R. S., & Limaye S. S. (2012, March). The- Survey- of- Historical-Technical- Development in Current Conveyors and Their Applications. In IJCA Proceedings on National Conference on Innovative Paradigms in Engineering and Technology (NCIPET 2012) ncipet (4) (pp. 17-23). 7. Yenkar Ramkrishna & Nigam Manoj Kumar. (2019, December). "Design and Simulation of Novel Variable Gain Differential Voltage Current Conveyor", International Conference on Innovative Trends and Advances in Engineering and Technology (ICITAET-2019). 		706-710

	<p>8. Ghallab, Y. H., Badawy, W., Kaler, K. V., & Maundy, B. J. (2005). A novel current-mode instrumentation amplifier based on the operational floating current conveyor. IEEE Transactions on Instrumentation and Measurement, 54(5), 1941-1949.</p> <p>9. Zumbahlen H, editor. "Chapter 8: Analog Filters", Linear Circuit Design Handbook. Newnes, Aug. 2011.</p> <p>10. McNames J., Second-Order Filters Overview. [PPT], Retrieved from http://www.kves.uniza.sk/kvesnew/dokumenty/DREP/Filters/SecondOrderFilters.pdf</p>	
	<p>Authors: Manisha Surve, Shraddha Asalkar, Shobha Rani Arangi, Sagar Surve</p> <p>Paper Title: Strength Improvement with Different Retrofitting Methods for RCC Structure</p> <p>Abstract: Reinforced concrete is the main material which is being used in major construction projects. However, the deterioration of reinforced concrete structures is the serious problem worldwide. Apart from regular maintenance, many structures require extensive repair and strengthening. The researchers have studied three different methods of retrofitting considering the strength and cost aspects. In this study, Ferro-cement, Carbon Fiber Reinforced Polymer (CFRP) and Plate Bonding method are used for retrofitting deteriorated beams. Flexural strength of the retrofitted beams are tested and compared.</p> <p>Keywords: Ferro-cement, Carbon Fiber Reinforced Polymers (CFRP), Plate Bonding Method, Compressive Strength, Flexural Strength</p> <p>References:</p> <ol style="list-style-type: none"> Masood Montevallo, Christoph Czaderski, and pfyl-Lang Kerstin. "Pre-stressed CFRP for strengthening of reinforced concrete structure: Recent development at Empa". ASCE, 2010. Garden, H. N and Hollaway L. C, Thorne L. M. "An Experimental study of the failure modes of reinforced concrete beams strengthened with prestressed carbon composite plate". ASCE, 1998. L.kostas, T. C.Triantafillous. "Uses of Anchors in shear strengthening of reinforced Concrete T-Beams with FRP". ASCE, 2013. Mohammad Hussein, Hamdy Mohy EI-Din Afefy and Abdel Hakim. "Innovation Repair Technique for RC Beams predamaged in shear". ASCE, 2013. Ke Li, Shuangyin Cao, Yue Yang and Juntao Zhu. "Bond slip relationship for CFRP sheets externally bonded to concrete under cyclic loading". ASCE, 2018. Ahmed W. Al Zand, Wan Hamidon, W. Badaruzzaman Azrul, A. Mutalib and Salam J. Hilo. "Flexural behavior of CFST beams partially strengthened with unidirectional CFRP sheets". ASCE, 2015. Tamer El Maaddawy and Khaled Soudki. "Carbon-Fiber-Reinforced Polymer repair to extend service life of corroded reinforced concrete beams". ASCE, 2015. Jawdhari, A.M.ASCE, A. Peiris, M.ASCE, and I. Harik. "Bond study on CFRP rod panels externally adhered to concrete". ASCE, 2016. Marco Arduini and Antonio Nanni. "Behaviour of precracked RC beams strengthened with carbon FRP sheets". ASCE, 2015. Mohammed A. Al-Saa wani, Ahmed K. El-Sayed and Abdulaziz I. Al-Negheimish. "Crack width prediction for concrete beams strengthened with carbon frp composites". ASCE, 2017. Tohid Ghanbari Ghazijahani, Hui Jiao, and Damien Holloway. "Composite timber beams strengthened by steel and CFRP". ASCE, 2016. Neil A. Hault and Janet M. Lees. "Efficient CFRP strap configurations for the shear strengthening of reinforced concrete T-beams". ASCE, 2009. Moataz Badawi and Khaled Soudki. "Fatigue behaviour of RC beams strengthened with NSM CFRP rods." ASCE, 2009. Cheng Chen, and Lijuan Cheng. "Fatigue behaviour and prediction of NSM CFRP-strengthened reinforced concrete beams". ASCE, 2016. Li Li Hu, Xiao Ling Zhao, and Peng Feng. "Fatigue behaviour of cracked high- strength steel plates strengthened by CFRP sheets". ASCE, 2016. Rizwan Azam, Khaled Soudki, Jeffrey S. West and Martin Noë. "Behaviour of shear-critical RC beams strengthened with CFRCM". ASCE, 2017. Yousef A. Al-Salloum, Hussein M. Elsanadedy Saleh H. Alsayedand Rizwan A. Iqbal. "Experimental and numerical study for the shear strengthening of reinforced concrete beams using textile-reinforced mortar". ASCE, 2012. Chetan Yalburgimath, Akash Rathod, S Bhavanishankar. "Retrofitting of reinforced concrete beam using Carbon Fiber Reinforced Polymer (CFRP) Fabric". IRJET, 2018 Prabhjot Singh.. "A case study on rehabilitation and retrofitting of cheetal marriage accommodation of Indian army Hissar". IRJET, 2018. Moataz Badawi and Khaled Soudki. "Control of corrosion-induced damage in reinforced concrete beams using Carbon Fiber-Reinforced Polymer Laminates". ASCE, 2015. Bimal Babu Adhikary, and Hiroshi Mutsuyoshi. "Behaviour of concrete beams strengthened in shear with carbon-fiber sheets". ASCE, 2015. H. Toutanji, L. Zhao,Y. Zhang. "Flexural behaviour of reinforced concrete beams externally strengthened with CFRP sheets bonded with an inorganic matrix". ELSEVIER, 2005. Oluwa funmilayo Awani, Tamer El-Maaddawy, Najif Ismail. "Fabric-reinforced cementitious matrix: A promising strengthening technique for concrete structures". ELSEVIER, 2016. Jacopo Donnini,Valeria Corinaldesi,Antonio Nann. "Mechanical properties of FRCM using carbon fabrics with different coating treatments". ELSEVIER, 2015. Jacopo Donnini, Valeria Corinaldesi. "Mechanical characterization of different FRCM systems for structural Reinforcement". ELSEVIER, 2017. 	
127.	<p>Authors: Swapnil Sinha, Harsh Kumar Kataruka, Vijayakumar Kuppusamy</p> <p>Paper Title: Image to Text Converter and Translator using Deep Learning and Image Processing</p> <p>Abstract: In this paper, we will present a general study on Image and text converter using deep learning and image processing. The main contents will include how the application will work and all the processing, segmentation, feature extraction, recognition and other steps involved. We will also present how this can be used in our daily lives.</p> <p>Keywords: Deep learning, Image processing, Optical character recognition, PyTesseract, Tensor flow, Python.</p>	711-714
128.	<p>Authors: Swapnil Sinha, Harsh Kumar Kataruka, Vijayakumar Kuppusamy</p> <p>Paper Title: Image to Text Converter and Translator using Deep Learning and Image Processing</p> <p>Abstract: In this paper, we will present a general study on Image and text converter using deep learning and image processing. The main contents will include how the application will work and all the processing, segmentation, feature extraction, recognition and other steps involved. We will also present how this can be used in our daily lives.</p> <p>Keywords: Deep learning, Image processing, Optical character recognition, PyTesseract, Tensor flow, Python.</p>	715-718

References:

1. Kai Ding, Zhibin Liu, Lianwen Jin, Xinghua Zhu, "A Comparative study of GABOR feature and gradient feature for handwritten chinese character recognition", International Conference on Wavelet Analysis and Pattern Recognition, pp. 1182-1186, Beijing, China, 2-4 Nov. 2007.
2. Pranob K Charles, V.Harish, M.Swathi, CH. Deepthi, "A Review on the Various Techniques used for Optical Character Recognition", International Journal of Engineering Research and Applications, Vol. 2, Issue 1, pp. 659-662, Jan-Feb 2012.
3. Bhatia Neetu, "Optical Character Recognition Techniques", International Journal of Advanced Research in Computer Science and Software Engineering, Volume 4, Issue 5, May 2014.
4. Liana M. Lorigo and Venu Govindaraju, "Offline Arabic Handwriting Recognition: A Survey", IEEE Transactions on Pattern Analysis and Machine Intelligence, Volume 28 Issue 5, May 2006.
5. K. Gaurav and Bhatia P. K., "Analytical Review of Preprocessing Techniques for Offline Handwritten Character Recognition", 2nd International Conference on Emerging Trends in Engineering & Management, ICETEM, 2013.
6. Salvador España-Boquera, Maria J. C. B., Jorge G. M. and Francisco Z. M., "Improving Offline Handwritten Text Recognition with Hybrid HMM/ANN Models", IEEE Transactions on Pattern Analysis and Machine Intelligence, Vol. 33, No. 4, April 2011.
7. U. Pal, T. Wakabayashi and F. Kimura, "Handwritten numeral recognition of six popular scripts," Ninth International conference on Document Analysis and Recognition ICDAR 07, Vol.2, pp.749-753, 2007.
8. Anita Pal & Dayashankar Singh, "Handwritten English Character Recognition Using Neural," Network International Journal of Computer Science & Communication. Vol. 1, No. 2, July-December 2010, pp. 141-144.
9. J. Pradeep, E. Srinivasan and S. Himavathi, "Diagonal Based Feature Extraction For Handwritten Alphabets Recognition System Using Neural Network", International Journal of Computer Science & Information Technology (IJCSIT), Vol 3, No 1, Feb 2011.
10. Evaluation of model-based retrieval effectiveness with OCR by Julie Borsack, Kazem Tagva and A Condit.
11. Information security retrieval accuracy with simulated OCR output by W.B. kroft, S.M. harding, University of Nevada.
12. OCR Post-Processing Error Correction Algorithm using Google Online Spelling Suggestion Youssef Bassil, Mohammad Alwani.
13. Probabilistic retrieval of OCR degraded text using N-grams by S. M. Harding W. B. Croft C. Weir.
14. OCR and bar code reader with optimized sensor Medford D. SannerLynn D. McWaters.
15. Optical Character Recognition (OCR) for Printed Devnagari Script Using Artificial Neural Network by Raghuraj Singh, C. S. Yadav, Prabhat Verma.
16. Effects of OCR errors on ranking and feedback using the vector space model by Kazem Taghva, Julie Borsack, Allen Condit.
17. Adapting the Tesseract open source OCR engine for multilingual OCR by Ray Wensley Smith profile image, Ray Smith.
18. Automated evaluation of OCR zoning by J. Kanai ; S.V. Rice ; T.A. Nartker ; G. Nagy
19. Ciresan, D.C., Meier, U., Gambardella, L.M., &
20. Schmidhuber, J, 2011, Convolutional neural network committees for handwritten character classification presented in International Conference on Document Analysis and Recognition, Beijing, China, 2011. USA: IEEE.
21. Qadri, M.T., & Asif, M, 2009, Automatic Number Plate Recognition System for Vehicle Identification Using Optical Character Recognition presented at International Conference on Education Technology and Computer, Singapore, 2009. Singapore: IEEE
22. A. Canedo-Rodriguez, S. Kim, J. Kim and Y. Blanco-Fernandez, 'English to Spanish translation of signboard images from mobile phone camera', IEEE Southeastcon 2009, 2009.
23. H. Nakajima, Y. Matsuo, M. Nagata and K. Saito, 'Portable Translator Capable of Recognizing Characters on Signboard and Menu Captured by Built-in Camera', in Proceedings of the ACL Interactive Poster and Demonstration Sessions, 2005.
24. S. Mori, C. Suen and K. Yamamoto, 'Historical review of OCR research and development', Proceedings of the IEEE, vol. 80, no. 7, pp. 1029- 1058, 1992.
25. M. Laine and O. Nevalainen, 'A Standalone OCR System for Mobile Cameraphones', 2006 IEEE 17th International Symposium on Personal, Indoor and Mobile Radio Communications, 2006.
26. A. Gohr, 'Linux OCR Software Comparison', Splitbrain.org, 2015. [Online]. Available: http://www.splitbrain.org/blog/2010-06/15-linux_ocr_software_comparison
27. Hymes, K. & Lewin, J. 'OCR for Mobile Phones', 2008
28. S. Fong, A. Elfaki, M. bin Md Johar and K. Aik, 'Mobile language translator', 2011 Malaysian Conference in Software Engineering, 2011.
29. V. Fragoso, S. Gauglitz, S. Zamora, J. Kleban and M. Turk, 'TranslatAR: A mobile augmented reality translator', 2011 IEEE Workshop on Applications of Computer Vision (WACV), 2011.
30. Koga M, R. Mine, T. Kameyama, T. Takahashi, M. Yamazaki and T. Yamaguchi, 'Camera-based Kanji OCR for mobile-phones: practical issues', Eighth International Conference on Document Analysis and Recognition (ICDAR'05), 2005.

129. Authors: Vaishali Arya, Rashmi Agrawal

Paper Title: Effect of Supervised and Unsupervised Algorithm for Cross Domain Sentiment Analysis

Abstract: Today we are living in the "information age" where data is the capital of the new economy. With the rapidly growing data every day on online portals and social networking websites, today industries are collecting and analyzing more data than before. Though data is readily available but finding valuable insights out of it is a real task. With easy accessibility of the data, new technologies, and a cultural shift towards data-driven decision making drives the need for Sentiment Analysis (SA) and makes it relevant in most of the domains like politics, marketing, healthcare, etc. This rapidly increasing information on different domains has motivated researchers to develop a cross-domain sentiment analysis model. For the development of this model, we have analyzed the performance of supervised and unsupervised models on benchmark datasets for the cross-domain analysis. The models chosen for the supervised is the Support Vector Machine (SVM) and for the unsupervised approach we have used a combination of Vader wherein the testing results showed that the supervised algorithms performed well in comparison to the unsupervised algorithm.

719-723

Keywords: Cross-Domain Sentiment Analysis, Supervised Algorithms for Cross-Domain, SVM for SA, Unsupervised Algorithms for Cross-Domain, Vader SA.

References:

1. He, Y., Lin, C., Alani, H.: Automatically extracting polarity-bearing topics for cross-domain sentiment classification. ACL-HLT 2011 - Proc. 49th Annu. Meet. Assoc. Comput. Linguist. Hum. Lang. Technol. 1, 123–131 (2011).
2. Wang, L., Niu, J., Song, H., Atiquzzaman, M.: SentiRelated: A cross-domain sentiment classification algorithm for short texts

through sentiment related index. *J. Netw. Comput. Appl.* 101, 111–119 (2018). <https://doi.org/10.1016/j.jnca.2017.11.001>.

3. Rane, A., Kumar, A.: Sentiment Classification System of Twitter Data for US Airline Service Analysis. In: Proceedings - International Computer Software and Applications Conference. pp. 769–773. IEEE Computer Society (2018). <https://doi.org/10.1109/COMPSAC.2018.00114>.
4. Maas, A.L., Daly, R.E., Pham, P.T., Huang, D., Ng, A.Y., Potts, C.: Learning Word Vectors for Sentiment Analysis.
5. Ghiassi, M., Lee, S.: A domain transferable lexicon set for Twitter sentiment analysis using a supervised machine learning approach. *Expert Syst. Appl.* 106, 197–216 (2018). <https://doi.org/10.1016/j.eswa.2018.04.006>.
6. Hutto, C.J., Gilbert, E.: VADER: A Parsimonious Rule-based Model for Sentiment Analysis of Social Media Text. (2014).
7. Baccianella, S., Esuli, A., Sebastiani, F.: SENTIWORDNET 3.0: An enhanced lexical resource for sentiment analysis and opinion mining. In: Proceedings of the 7th International Conference on Language Resources and Evaluation, LREC 2010. pp. 2200–2204 (2010).
8. Gamon, M.: Sentiment classification on customer feedback data: noisy data, large feature vectors, and the role of linguistic analysis. *Proc. 20th Int. Conf. Comput. Linguist.* (2004). <https://doi.org/10.3115/1220355.1220476>.
9. Yiran, Y., Srivastava, S.: Aspect-based Sentiment Analysis on mobile phone reviews with LDA. *ACM Int. Conf. Proceeding Ser.* 101–105 (2019). <https://doi.org/10.1145/3340997.3341012>.
10. Islam, M.R., Zibran, M.F.: SentiStrength-SE: Exploiting domain specificity for improved sentiment analysis in software engineering text. *J. Syst. Softw.* 145, 125–146 (2018). <https://doi.org/10.1016/j.jss.2018.08.030>.
11. Islam, M.R., Zibran, M.F.: SentiStrength-SE: Exploiting domain specificity for improved sentiment analysis in software engineering text. *J. Syst. Softw.* 145, 125–146 (2018). <https://doi.org/10.1016/j.jss.2018.08.030>.
12. Hu, M., Liu, B.: Mining and summarizing customer reviews. In: KDD-2004 - Proceedings of the Tenth ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (2004). <https://doi.org/10.1145/1014052.1014073>.
13. Shamshurin, I.: Extracting Domain-Specific Opinion Words for Sentiment Analysis. In: Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and
14. Lecture Notes in Bioinformatics). pp. 58–68 (2013). https://doi.org/10.1007/978-3-642-37798-3_6.
15. Bollegala, D., Weir, D., Carroll, J.: Cross-domain sentiment classification using a sentiment sensitive thesaurus. *IEEE Trans. Knowl. Data Eng.* 25, 1719–1731 (2013). <https://doi.org/10.1109/TKDE.2012.103>.
16. Mohammad, S., Dunne, C., Dorr, B.: Generating high-coverage semantic orientation lexicons from overtly marked words and a thesaurus. In: EMNLP 2009 - Proceedings of the 2009 Conference on Empirical Methods in Natural Language Processing: A Meeting of SIGDAT, a Special Interest Group of ACL, Held in Conjunction with ACL-IJCNLP 2009 (2009). <https://doi.org/10.3115/1699571.1699591>.
17. Pang, B., Lee, L., & Vithyanathan, S.: Thumbs up? Sentiment Classification using Machine Learning Techniques. *Proc. Inst. Civ. Eng. - Transp.* (2019). <https://doi.org/10.1680/jtran.18.00094>.
18. Liu, M., Song, Y., Zou, H., Zhang, T.: Reinforced Training Data Selection for Domain Adaptation. 1957–1968 (2019). <https://doi.org/10.18653/v1/p19-1189>.
19. Da Silva, N.F.F., Coletta, L.F.S., Hruschka, E.R., Hruschka, E.R.: Using unsupervised information to improve semi-supervised tweet sentiment classification. *Inf. Sci. (Ny)*. 355–356, 348–365 (2016). <https://doi.org/10.1016/j.ins.2016.02.002>.
20. Vadivukarassi, M., Puviarasan, N., Aruna, P.: A Comparison of Supervised Machine Learning Approaches for Categorized Tweets. In: Lecture Notes on Data Engineering and Communications Technologies. pp. 422–430. Springer (2019). https://doi.org/10.1007/978-3-030-03146-6_47.
21. M., B., B., V.: Sentiment Analysis using Support Vector Machine based on Feature Selection and Semantic Analysis. *Int. J. Comput. Appl.* 146, 26–30 (2016). <https://doi.org/10.5120/ijca2016910921>.
22. Zhao, C., Wang, S., Li, D.: Multi-source domain adaptation with joint learning for cross-domain sentiment classification. *Knowledge-Based Syst.* 191, 105254 (2020). <https://doi.org/10.1016/j.knsys.2019.105254>.
23. Multi Source domain data for sentiment classification. Zainuddin, N., Selamat, A., Ibrahim, R.: Hybrid sentiment classification on twitter aspect-based sentiment analysis. *Appl. Intell.* 48, 1218–1232 (2018). <https://doi.org/10.1007/s10489-017-1098-6>.
24. Appel, O., Chiclana, F., Carter, J., Fujita, H.: Successes and challenges in developing a hybrid approach to sentiment analysis. *Appl. Intell.* 48, 1176–1188 (2018). <https://doi.org/10.1007/s10489-017-0966-4>.
25. Hassan, F., Usman, K., Saba, Q.: Enhanced cross-domain sentiment classification utilizing a multi-source transfer learning approach. *Soft Comput.* (2018). <https://doi.org/10.1007/s00500-018-3187-9>.
26. Pan, S.J., Ni, X., Sun, J.T., Yang, Q., Chen, Z.: Cross-domain sentiment classification via spectral feature alignment. In: Proceedings of the 19th International Conference on World Wide Web, WWW '10. pp. 751–760 (2010). <https://doi.org/10.1145/1772690.1772767>.
27. Thet, T.T., Na, J.C. and Khoo, C.S., 2010. Aspect-based sentiment analysis of movie reviews on discussion boards. *Journal of information science*, 36(6), pp.823-848.

130.	Authors:	Jae Mok Ahn	
	Paper Title:	Heart Rate Variability Assessment by the Lyapunov Exponent	
	Abstract:	Heart rate variability (HRV) is a measure that evaluates cardiac autonomic activity according to the complexity or irregularity of an HRV dataset. At present, among various entropy estimates, the Lyapunov exponent (LE) is not as well described as approximate entropy (ApEn) and sample entropy (SampEn). Therefore, in this study, we investigated the characteristics of the parameters associated with the LE to evaluate whether the LE parameters can replace the frequency-domain parameters for HRV analysis. For the LE analysis in this study, two-dimensional factors were adjusted: length, which determines the size of the dimension vectors and is known as time delay embedding, varied over a range of 1 to 7, and the interval, which determines the distance between two successive embedding vectors, varied over a range of 1 to 3. A new parameter similar to the LA, the accumulation of the LE, was developed along with the LE to characterize the HRV parameters. The high frequency (HF) components dominated when the mean value of the LA was largest for interval 2, with 2.89 ms ² at the low frequency (LF) and 4.32 ms ² at the HF. The root mean square of the successive difference (RMSSD) in the LE decreased with increasing length in interval 1 from 2.6056 for length 1 to 0.2666 for length 7, resulting in a low HRV. The results suggest that the Lyapunov exponent methodology could be used in characterizing HRV analysis and replace power spectral estimates, specifically, HF components.	724-728
	Keywords:	Heart rate variability, Lyapunov exponent, frequency component, autonomic nervous system, entropy.	
	References:		

1. S. Evans, L.C. Seidman, J.C.I. Tsao, K.C. Lung, L.K. Zeltzer, B.D. Naliboff, "Heart rate variability as a biomarker for autonomic nervous system response differences between children with chronic pain and healthy control children," *Journal of Pain Research*, 2013, vol. 6, pp. 449-457.
2. Z. Ori, G. Monir, J. Weiss, X. Sayhouni, D.H. Singer, "Heart rate variability. Frequency domain analysis," *Cardiology Clinics*, 1992, vol. 10, no. 3, pp. 499-537.
3. A.H. Kemp, D.S. Quintana, "The relationship between mental and physical health: Insights from the study of heart rate variability," *International Journal of Psychophysiology*, 2013, vol. 89, no. 3, pp. 288-296.
4. L. Soares-Miranda, J. Sattelmair, P. Chaves, G.E. Duncan, D.S. Siscovick, P.K. Stein, D. Mozaffarian, "Physical activity and heart rate variability in older adults: The cardiovascular health study," *Circulation*, 2014, vol. 129, no. 21, pp. 2100-2110.
5. G.Q. Wu, N.M. Arzeno, L.L. Shen, D.K. Tang, D.A. Zheng, N.Q. Zhao, D.L. Eckberg, C.S. Poon, "Chaotic signatures of heart rate variability and its power spectrum in health, aging and heart failure," *PLoS One*, 2009, vol. 4, no. 2, pp. e4323.
6. F. Beckers, D. Ramaekers, A.E. Aubert, "Approximate entropy of heart rate variability: validation of methods and application in heart failure," *Cardiovascular Engineering: An International Journal*, 2002, vol. 1, no. 4, pp. 177-182.
7. B. Shi, Y. Zhang, C. Yuan, S. Wang, P. Li, "Entropy analysis of short-term heartbeat interval time series during regular walking," *Entropy*, 2017, vol. 19, pp. 568-582.
8. W. Chen, J. Zhuang, W. Yu, Z. Wang, "Measuring complexity using FuzzyEn, ApEn, and SampEn," *Medical Engineering & Physics*, 2009, vol. 31, no. 1, pp. 61-68.
9. D. Makowiec, A. Kaczowska, D. Wejer, M. Zarczynska-Buchowiecka, Z. Struzik, "Entropic measures of complexity of short-term dynamics of nocturnal heartbeats in an aging population," *Entropy*, 2015, vol. 17, pp. 1253-1272.
10. L.E. Silva, R.M. Lataro, J.A. Castania, C.A. da Silva, J.F. Valencia, L.O. Jr. Murta, H.C. Salgado, R. Jr. Fazan, A. Porta, "Multiscale entropy analysis of heart rate variability in heart failure, hypertensive, and sinoaortic-denervated rats: classical and refined approaches," *American Journal of Physiology, Regulatory, Integrative and Comparative Physiology*, 2016, vol. 311, no. 1, pp. R150-R156.
11. H.M. Al-Angari, A.V. Sahakian, "Use of sample entropy approach to study heart rate variability in obstructive sleep apnea syndrome," *IEEE Transaction on Biomedical Engineering*, 2007, vol. 54, no. 10, pp. 1900-1904.
12. M. Javorka, Z. Trunkvalterova, I. Tonhajzerova, J. Javorkova, K. Javorka, M. Baumert, "Short-term heart rate complexity is reduced in patients with type 1 diabetes mellitus," *Clinical Neurophysiology*, 2008, vol. 119, no. 5, pp. 1071-1081.
13. F. Shaffer, J.P. Ginsberg, "An overview of heart rate variability metrics and norms," *Frontiers in Public Health*, 2017, vol. 5, no. 258, pp. 1-16.
14. H. Luo, J. Wei, Y. Yasin, S.J. Wu, A. Barszczyk, Z.P. Feng, K. Lee, "Stress determined through heart rate variability predicts immune function," *Neuroimmunomodulation*, 2019, vol. 26, no. 4, pp. 167-173.
15. J.K. Kim, J.M. Ahn, "Effects of a spectral window on frequency domain HRV parameters," In book: *Advances in Computer Communication and Computational Sciences*, 2019, vol. 924, pp. 697-710.

Authors: K. Kalyani

Paper Title: Analog Beamforming in Millimeter Wave MIMO Systems

Abstract: In traditional analog beamforming schemes, like the beam selection method, use the strongest path array steering vector of the channel to generate a beam pointing to the user. In multi-user systems, such schemes will result in the large interference among the users, especially when the users are closely located. In this paper, we designed an analog beamforming scheme for downlink mm-wave multi-user systems to enhance the beamforming gain and suppress the inter-user interference at the same time. A multi-objective problem is developed to beat a balance between the inter-user interference and the beamforming gain. To solve the problem, we firstly use the weighted-sum method and then ϵ -constraint method to transform the multi-objective problem into a single-objective problem. Then, the analog beamforming is made tractable with the constant-magnitude constraints with the use of semidefinite programming technique. Adding to these, the robust beamforming is designed to mitigate the effects of the channel estimation and to provide the robustness against the imperfect channel information. The simulation results show that the ϵ -constraint method outperforms when compared with the weighted-sum method at high SNR's for the robust multi-user analog beamforming.

Keywords: mm-waves, multi-user, analog beam forming, robust, multi-objective.

References:

1. Lisi Jiang and Hamid Jafarkhani, "Multi-User Analog Beamforming in Millimeter Wave MIMO Systems Based on Path Angle Information", *IEEE Transactions on Wireless Communications*, vol. 18, no. 1, January 2019.
2. Monzingo, R. A. and Miller, T. W. (1980): "Introduction to Adaptive Arrays," John Wiley, New York.
3. Capon, J. (1969): "High resolution Frequency Wavenumber Spectral Analysis," *Proc. IEEE*, Vol57, no8, pp. 1408 - 1418, Aug., 1969.
4. B. Van Veen and K. Buckley, "Beamforming: A versatile approach to spatial filtering," *IEEE ASSP magazine*, vol. 5, no. 2, pp. 4-24, 1988.
5. H. Jafarkhani, *Space-Time Coding: Theory and Practice*. Cambridge, U.K.: Cambridge Univ. Press, Sep. 2005.
6. B. K. Chalise, S. Shahbazpanahi, A. Czulwik, and A. B. Gershman, "Robust down link beamforming based on outage probability specifications," *IEEE Trans. Wireless Commun.*, vol. 6, no. 10, pp. 3498-3503, Oct. 2007.
7. T. S. Rappaport, R. W. Heath, Jr., R. C. Daniels, and J. N. Murdock, *Millimeter Wave Wireless Communications*. London, U.K.: Pearson, Sep. 2014.
8. L. Liu, Y.-H. Nam, and J. Zhang, "Proportional fair scheduling for multicell multi-user MIMO systems," in *Proc. IEEE 44th Annu. Conf. Inf. Sci. Syst. (CISS)*, Princeton, NJ, USA, Mar. 2010, pp. 1-6.
9. J. Kazemitarbar and H. Jafarkhani, "Multiuser interference cancellation and detection for users with more than two transmit antennas," *IEEE Trans. Commun.*, vol. 56, no. 4, pp. 574-583, Apr. 2008.
10. A. Tarighat, M. Sadek, and A. H. Sayed, "A multi user beamforming scheme for downlink MIMO channels based on maximizing signal-to-leakage ratios," in *Proc. IEEE Int. Conf. Acoust., Speech, Signal Process. (ICASSP)*, Philadelphia, PA, USA, Mar. 2005, pp. iii/1129-iii/1132.
11. T. S. Rappaport, R. W. Heath, Jr., R. C. Daniels, and J. N. Murdock, *Millimeter Wave Wireless Communications*. London, U.K.: Pearson, Sep. 2014.
12. Yuhuan Sun, and Chenhao Qi, "Weighted Sum Rate Maximization for Analog Beamforming and Combining in Millimeter Wave Massive MIMO Communications", DOI 10.1109/LCOMM.2017.2703113, IEEE.
13. H. Du and P.-J. Chung, "A probabilistic approach for robust leakage based MU MIMO downlink beamforming with imperfect channel state information," *IEEE Trans. Wireless Commun.*, vol. 11, no. 3, pp. 1239-1247, Mar. 2012.

	Authors:	Mohd. Alam, Mohammad Nazim, Sitesh Kumar Singh
	Paper Title:	Deterioration Pattern of Flexible Pavement with the Help of Falling Weight Deflectometer
132.		<p>Abstract: Maintenance and repair of the highway network system are major expenses in the state budget. For this reason, various concerned organizations are pointing out the need for developing an intelligent and efficient pavement performance model that can prioritize pavement maintenance and rehabilitation works. Such models can forecast the remaining pavement service life and pavement rehabilitation needs, and can help in the formulation of pavement maintenance and strengthening programmes which will reduce the road agency and road user costs. The flexible pavement performance or deterioration models involve the complex interaction between vehicles, environment, structure and surface of the pavement. Performance models relating to the pavement distress conditions like, cracking, ravelling, potholing, and roughness are analysed and developed by various researchers. Understanding the deterioration pattern of the flexible pavement is very important in order to take the decision for strengthening the pavement. The remaining life of the pavement depends on various factors such as Traffic, Environment and climatic conditions hence keeping in mind these factors. The thesis presents the pattern of the deterioration of remaining life of pavement. The thesis emphasis on determining the remaining life of pavement by conducting the FWD test. The FWD test is conducted on the same pavement for three time at regular interval to verify the remaining life of the flexible pavement.</p> <p>Keywords: flexible pavements, remaining life, traffic, Equivalent Single Axle Load (ESAL), environment, Falling Weight Deflectometer.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Jianzhou Chen, Mustaque Hossain and Todd M. Latorella, "Use of Falling Weight Deflectometer And Dynamic Cone Penetrometer in Pavement Evaluation" (1999), Transportation Research Record 1655, Page No. 99-1007. 2. Phillip Donovan and Erol Tutumluer, "Falling Weight Deflectometer Testing to Determine Relative Damage in Asphalt Pavement Unbound Aggregate Layers" (2009), Transportation Research Record: Journal of The Transportation Research Board, No. 2104, Transportation Research Board of The National Academies, Washington, D.C., 2009, Pp. 12–23. 3. Ankit Gupta, Praveen Kumar and Rajat Rastogi, "Critical Review of Flexible Pavement Performance Models", (2012), Ksce Journal of Civil Engineering (2014) 18(1):142-148, Issn 1226-7988 4. Chetan C Patil, "Flexible Pavement Evaluation by Falling Weight Deflectometer Test Using Iit-Pave and Kgp Back Software", (2018), International Journal of Applied Engineering Research Issn 0973-4562 Volume 13, Number 7 (2018) Pp. 180-183 5. A Computer Package for Structural Analysis of Concrete Pavements, Huang, Y. H., Proceedings, 3rd International Conference on Concrete Pavement Design and Rehabilitation, Pp.295-307 Purdue University, 1985. 6. Porter O.J., "The Preparation of Subgrade", (1938), Proceedings, Highway Research Board, Volume 16 No 2, Washington, D C, 324-331 7. The Aasho Road Test. Report 5: Highway Research Board, (1962), Pavement Research. Special Report 61e. National Academy of Sciences, National Research Council, Washington, D.C. 8. Aasho Guide for Design of Pavements Structures, American Association of State Highway and Transportation Officials, Aasho. (1993), Washington, Dc 9. Irc:115-2014, "Guidelines for Structural Evaluation and Strengthening of Flexible Road Pavements Using Falling Weight Deflectometer (Fwd) Technique, Indian Road Congress, New Delhi
133.		<p>Authors: Seema Wadhawan, Nidhi Gupta</p> <p>Paper Title: Digitalized Transformation, Social Networking and its Effect on Talent Acquisition</p> <p>Abstract: Advancement in technology has led to adoption of digitalized platforms for recruitment. Hiring in the current age is candidate driven. Competitive success of organizations has made it imperative for the recruiters to draw right talent. A vital appropriate digitalized professional social networking platform facilitates the recruiters to connect personally and professionally. The study attempts to analyze effectiveness of LinkedIn as a digitalized SNS platform by analyzing information content and website usability. Research was conducted through a structured questionnaire in Delhi, NCR with a sample size of 125 recruiters. Factor analysis was applied to identify varied attributes of the LinkedIn for its adoption by talent acquisition teams. Correlation and Regression enabled to study the influence of information and website quality on Intention to use LinkedIn. Findings of the study showed that perceived usefulness and information relevance influence the intention to use LinkedIn by recruiters the most.</p> <p>Keywords: Information relevance, LinkedIn, Perceived Usefulness, Recruitment, Social Networking Site and Talent Acquisition, TAM (Technology Acceptance Model)</p> <p>References:</p> <ol style="list-style-type: none"> 1. Davis, F. D. (1989). "Perceived usefulness, perceived ease of use, and user acceptance of information technology". MIS quarterly, Vol 13 No. 3, pp 319-340. 2. Dineen, B.R., Noe, R.A.(2009). "Effects of customization on application decisions and applicant pool characteristics in a web-based recruitment context". Journal of Applied Psychology. Vol 94 No.1 pp. 224–34 3. Feldmann, D. C., and Klaas, B. S. (2002). Internet job hunting: A field study of applicant experiences with on-line recruiting. Human Resource Management, Vol. 41 No. 2, pp. 175–192. 4. Grobler, B., Joubert, P., and Lesuthu, K.,(2014). Job Seeker's Perception about Pnet Website as an E-Recruitment Tool within South Africa, Mediterranean Journal of Social Sciences, Vol.5 No.7, pp 530-541 5. Gallardo-Gallardo, E., & Thunnissen, M. (2015). Standing on the shoulders of giants. Employee Relations, Vol 38 No. 1, pp 31–56. https://doi.org/10.1108/09564230910978511 6. Hunt, G. (2010). Finders keepers: Social media strategies help find top talent. Journal of Property Management. Vol. 75, No 6. pp

737-744

745-750

	<p>36-41.</p> <ol style="list-style-type: none"> 7. Heberd, L. (2017). The evolution of finding candidates. Available at: https://theundercoverrecruiter.com/infographic-the-evolution-of-recruitment-technology/. Access: 02.03.2020. 8. Kia Kashi ,Connie Zheng (2013), "Extending technology acceptance model to the E-recruitment context in Iran, International Journal of Selection and Assessment. Vol. 21 No 1, pp 121 - 129 9. Kluemper, D.H. (2013), "Social network screening: pitfalls, possibilities, and parallels in 10. employment selection", in Bondarouk, T. and Olivas-Lujan, M. (Eds), Advanced Series in Management, Emerald Group Publishing Ltd, Bingley, 1-21. 11. Koch, T., Gerber, C., & De Klerk, J.J. (2018). The impact of social media on recruitment: Are you LinkedIn? SA Journal of Human Resource Management Vol. 16 , a861. https://doi.org/10.4102/sajhrm.v16i0.861 12. Nikolaou, I. 2014, Social Networking Web Sites in Job Search and Employee Recruitment, International Journal of Selection and Assessment, Vol.22 No. 2, pp 179-189. https://doi.org/10.1111/ijsa.12067 13. Nikam, S.S, & Dalvi, R. (2020), " Fake News Detection on Social Media using machine learning Technique. International Journal of Innovative Technology and Exploring Engineering. 14. Schlechter, A., Hung, A., & Bussin, M. (2014). Understanding talent attraction: The influence of financial rewards elements on perceived job attractiveness. SA Journal of Human Resource Management, Vol 12 No. 1, 1-13. https://doi.org/10.4102/sajhrm.v12i1.647 15. Shankar. A & Datta.B., (2020). Measuring e-service quality: a review of literature. International Journal of Services Technology and Management, Vol. 26 No. 1, pp 77-100 16. Sinha, V., & Thaly, P. (2013). A review on changing trend of recruitment practice to enhance the quality of hiring in global organizations. Management, Vol 18 No. 2, pp141-156. 17. Swallov, E. (2011), How Recruiters Use Social Networks to Screen Candidates, https://mashable.com/2011/10/23/how-recruiters-use-social-networks-to-screen-candidates-infographic/ (referred on 30/03/2020). 18. Tyagi, A. (2012). Effective talent acquisition through E-recruitment: a study. International Journal of Multidisciplinary Management Studies, Vol 2 No 1, pp 148-156. 19. Wadhawan, S.,Sinha,S., Bansal. S., & Kaur. A., (2020). Job Seeker's Intention to use LinkedIn As a Social Recruitment Website: A perception Study. Shodh Sarita, Vol 7. (25), pp 1-6. 20. Zide, J., Elman, B., & Shahani-Denning, C. (2014). LinkedIn and recruitment: How profiles differ across occupations. Employee Relations, Vol. 36 No. (5), 583-604. https://doi.org/10.1108/ER-07-2013-0086. 					
	<table border="1"> <tr> <td>Authors:</td> <td>Madhavi Katamaneni, Praveena Nuthakki Madhavalatha Pandala</td> </tr> <tr> <td>Paper Title:</td> <td>Sickness Detection on the Leaves of the Tomato Plants by using Deep Learning</td> </tr> </table>	Authors:	Madhavi Katamaneni, Praveena Nuthakki Madhavalatha Pandala	Paper Title:	Sickness Detection on the Leaves of the Tomato Plants by using Deep Learning	
Authors:	Madhavi Katamaneni, Praveena Nuthakki Madhavalatha Pandala					
Paper Title:	Sickness Detection on the Leaves of the Tomato Plants by using Deep Learning					
134.	<p>Abstract: The purpose of this work is to recognize diseases that occur on plants in tomato fields or in their nurseries. Thus, significant learning was used to perceive the various sicknesses on the leaves of tomato plants. In the assessment, it was pointed that the significant learning figuring should be run ceaselessly on the robot. So the robot will have the alternative to perceive the ailments of the plants while wandering truly or of course self-rulingly on the field or in the nursery. Also, illnesses can in like manner be recognized from close-up photographs taken from plants by sensors worked in produced nurseries. The assessed diseases in this assessment cause physical changes in the leaves of the tomato plant. These movements on the leaves can be seen with RGB cameras. In the past examinations, standard component extraction strategies on plant leaf pictures to perceive disorders have been used. In this assessment, significant learning systems were used to perceive disorders. Significant getting the hang of building decision was the key issue for the execution. So that, two unmistakable significant learning framework models were attempted first AlexNet and thereafter SqueezeNet. For both of these significant learning frameworks getting ready and endorsement were done on the Nvidia Jetson TX1. Tomato leaf pictures from the PlantVillage dataset has been used for the readiness. Ten unmistakable classes including sound pictures are used. Arranged frameworks are moreover taken a stab at the photos from the web.</p> <p>Keywords: Accuracy cultivating, profound learning, plant infections.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Shima Ramesh, Mr. RamachandraHebbar, Niveditha M, Pooja R, Prasad Bhat —Plant Disease Detection Using Machine Learning 2018. 2. Jitesh P. Shah, Harshadkumar B. Prajapati, Vipul K. Dabhi, A Survey on Detection and Classification of Rice Plant Diseases , 16th june 2016. 3. Mukesh Kumar Tripathi, Dr. Dhananjay D. Maktedar, —Recent Machine Learning Based Approaches for Disease Detection and Classification of Agricultural Products , April 2016. 4. ZarreenNaowal Reza1, Faiza Nuzhat2, Nuzhat Ashraf Mahsa3, Detecting Jute Plant Disease Using Image Processing and Machine Learning , April 2017.. 5. HalilDurmus, EceOlcaYGünes, —Disease Detection on the Leaves of the Tomato Plants by Using Deep Learning , June 2015 6. "Food and Agriculture Organization of The United Nations," [Online]. Available: http://www.fao.org/home/en/. [Accessed 2017].I.S. Jacobs and C.P. Bean, —Fine particles, thin films and exchange anisotropy, in Magnetism, vol. III, G.T. Rado and H. Suhl, Eds. New York: Academic, 1963, pp. 271-350 . 7. "Turkish Statistical Institute," [Online]. Available: http://www.turkstat.gov.tr/Start.do. [Accessed 2017]. 8. D. Blancard, Compendium of Tomato Diseases and Pests, Second ed., Manson Publishing Ltd, 2012. 	751-757				
135.	<table border="1"> <tr> <td>Authors:</td> <td>Shruti Shrivastava, Usha Chauhan, Mohammad Rashid Ansari</td> </tr> <tr> <td>Paper Title:</td> <td>Low Power based Dynamic TSPC D flip flop for High Performance Applications</td> </tr> </table> <p>Abstract: D flip-flop is viewed as the most basic memory cell in by far most of computerized circuits, which brings it broad usage, particularly under current conditions where high-thickness pipeline innovation is as often as possible utilized in advanced coordinated circuits and flip-flop modules are key segments. As a constant research center, various sorts of zero flip-flops have been concocted and explored, and the ongoing exploration pattern has gone to rapid low-control execution, which can be come down to low power-defer item. To actualize</p>	Authors:	Shruti Shrivastava, Usha Chauhan, Mohammad Rashid Ansari	Paper Title:	Low Power based Dynamic TSPC D flip flop for High Performance Applications	758-762
Authors:	Shruti Shrivastava, Usha Chauhan, Mohammad Rashid Ansari					
Paper Title:	Low Power based Dynamic TSPC D flip flop for High Performance Applications					

superior VLSI, picking the most proper D flip-flop has clearly become an incredibly huge part in the structure stream. The quick headway in semiconductor innovation made it practicable to coordinate entire electronic framework on a solitary chip. CMOS innovation is the most doable semiconductor innovation yet it neglects to proceed according to desires past and at 32nm innovation hub because of the short channel impacts. GNRFET is Graphene Nano Ribbon Field Effect Transistor, it is seen that GNRFET is a promising substitute for low force application for its better grasp over the channel. In this paper, an audit on Dynamic Flip Flop and GNRFET is introduced. The power is improved in the proposed circuit for the D flip flop TSPC.

Keywords: D Flip Flop, GNRFET, VLSI, Nano technology

References:

1. Jahangir Shaikh, Hafizur Rahaman, —High speed and low power preset-able modified TSPC D flip-flop design and performance comparison with TSPC D flip-flop, IEEE, 2018
2. M. A. Hernandez and M. L. Aranda, —A Clock Gated Pulse-Triggered D Flip-Flop for Low Power High Performance VLSI Synchronous Systems, Proceedings of the 6th International Caribbean Conference on Devices, Circuits and Systems, Mexico, pp. 293-29, 28 April 2006.
3. M. Pedram, —Power minimization in IC Design: Principles and applications, ACM Transactions on Design Automation of Electronic Systems, Vol. 1, No. 1, January 1996
4. B. Nikolic, —Design in The Power Limited Scaling Regime, IEEE Transaction on Electronic Devices, Vol. 55, No. 1, pp. 71-83, January 2008.
5. Neil H. E. Weste, David Harris, Ayan Banerjee, —CMOS VLSI DESIGN: A Circuits and Systems Perspective, Third Edition, 2007.
6. Surya Naik and Rajeevan Chandel, —Design of a Low Power Flip-Flop Using CMOS Deep Submicron Technology, IEEE International Conference on Recent Trends in Information, Telecommunication and Computing (ITC), pp. 253-256, 2010
7. Betti A., Fiori G., and Iannaccone G (2011), Strong mobility degradation in ideal graphene nanoribbons due to phonon scattering, volume-98, issue 21, Appl. Phys Lett., 2011.
8. Chauhan S.S. et al (2012), Band gap engineering in zigzag graphene nano ribbons anab initio approach, Journal of Computational and Theoretical Nanoscience Volume 9, Number 8 (August 2012) pp.1023-1133.
9. Chandrakasan A.P. Sheng S. Brodersen R.W (1992).: —Low-power CMOS digital design, IEEE Journal of Solid-State Circuits, Volume 27, Issue4, April 1992 Page(s):473 – 484.
10. Chilstedt S., Dong C., and Chen D (2010), Carbon nanomaterials transistors and circuits, transistors: Types, materials and applications, Nova Science Publishers, 2010.
11. Chin, Huei& Lim, Cheng Siong& Soon Wong, Weng& A. Danapalasingam, Kumeresan& K. Arora, Vijay & Tan, Michael. (2014). Enhanced Device and Circuit-Level Performance Benchmarking of Graphene Nano-ribbon Field-Effect Transistor against a Nano-MOSFET with Interconnects. Journal of Nanomaterials, 2014. 1-14. 10.1155/2014/879813.
12. Sanga, MohammadiBanadaki, Yaser& Srivastava, A &Sharifi, Safura. (2016). Graphene nano-ribbon field effect transistor for nanometer-size on-chip temperature sensor. 980203. 10.1117/12.2219346.
13. Hwang, Wansik& Zhao, Pei & Tahy, Kristof & O. Nyakiti, Luke & D. Wheeler, Virginia & L. Myers-Ward, Rachael & R. Eddy Jr, Charles & Kurt Gaskill, D & Robinson, Joshua &Haensch, Wilfried& An, Huili& , Xing &Seabaugh, Alan & Jena, Debdeep. (2013). Graphene Nano-ribbon Field-Effect Transistors on Wafer-Scale Epitaxial Graphene on SiC substrates. APL Materials. 3. 10.1063/1.4905155.
14. Yoon, Youngki& Fiori, Gianluca& Hong, Seokmin&Iannaccone, Giuseppe &Guo, Jing. (2008). Performance Comparison of Graphene Nano-ribbon FETs With Schottky Contacts and Doped Reservoirs. IEEE Transactions on Electron Devices, 55. 10.1109/TED.2008.928021.
15. Mayank Mishra, RonilStieven Singh ,Ale Imran —Performance optimization of GNRFET Inverter at 32nm technology node, materials today proceeding, Volume 4, Issue 9, 2017, Pages 10607-10611
16. DEVENDRA UPADHYAY and SUDHANSHU CHOUDHARY —Understanding the impact of graphene sheet tailoring on the conductance of GNRFETs, Bull. Mater. Sci., Vol. 38, No. 7, December 2015, pp. 1705–1709.c©Indian Academy of Sciences.
17. Maedeh Akbari Eshkalaka,n, Rahim Faezb, Saeed Haji-Nasiria —A novel graphene nano-ribbonfield effect transistor with two differentgate insulators| http://dx.doi.org/10.1016/j.physe.2014.10.0211386-9477/&2014 Elsevier
18. DehdashtiAkhavan, Nima&Ferain, Isabelle & Yu, Ran &Razavi, Pedram&Colinge, Jean-Pierre. (2012). Influence of discrete dopant on quantum transport in silicon nanowire transistors. Solid State Electronics. 70. 92-100. 10.1016/j.sse.2011.11.017.
19. Choudhury, Mihir& Yoon, Youngki&Guo, Jing &Mohanram, Kartik. (2008). Technology exploration for graphene nano-ribbon FETs. 272-277. 10.1145/1391469.1391539.
20. Yousefi, Reza &Ghoreishi, Seyed. (2017). A computational study of a novel graphene nano-ribbon field effect transistor Read More: http://www.worldscientific.com/doi/abs/10.1142/S0217979217500564?src=recsys. International Journal of Modern Physics B. 10.1142/S0217979217500564.
21. [21] M.Arunlakshman —Effect of 15nm Graphene Nano Ribbon Field Effect Transistors(GNRFET)on Single Edge Triggered D –Flip Flop based Shift Registers and its comparison with 16nm MOSFET Technology, International Journal of Emerging Technology and Advanced Engineering Website: www.ijetae.com(ISSN 2250-2459,ISO 9001:2008Certified Journal,Volume 4, Issue 4, April2014),
22. Wan Sik Hwang1,2,b), Pei Zhao1, Kristof Tahy1, Luke O. Nyakiti3,4, Virginia D. Wheeler3, Rachael L. Myers-Ward3, Charles R. Eddy Jr.3, D. Kurt Gaskill3, Joshua A. Robinson5, Wilfried Haensch6, Huili (Grace) Xing1, Alan Seabaugh1, and Debdeep Jena1,b)—Graphene nano-ribbon field-effect transistors on wafer-scale epitaxial graphene on SiC substrates| APL Materials 3, 011101 (2015); https://doi.org/10.1063/1.4905155
23. M. M. Anas, "A Study of Single Layer and Bilayer GNRFET," 2016 UKSim-AMSS 18th International Conference on Computer Modelling and Simulation (UKSim),

136.	Authors:	Ravula Arun kumar, D. Sai Tharun Kumar, K. Kalyan, B. Rohan Ram Reddy
	Paper Title:	Vehicle Counting and Detection
	Abstract: This paper describes about the system to count the number of vehicles on roads and highways by using adaptive background subtraction and blob tracking technologies. Overall, system requires a video stream captured from static cameras installed on roads and highways .The proposed system consists of four stages: 1) Adaptive background subtraction 2) image segmentation 3) vehicle counting 4) vehicle tracking. The necessity of tracing and counting the vehicles is helpful for traffic surveillance. The primary key features of the system are 1) Ability to count the vehicles 2) efficiency, to show that system would give the results with high perfection.	763-766

Keywords: Hole editing, Background Subtraction, Virtual Detector, Kalman Filter.

References:

1. Dariu M.G. "Sensor-Based Pedestrian Protection", IEEE transaction on Intelligent Transportation Systems, November/December 2001 [
2. Kaweepap Kongkittisan, "Object Speed Detection from a Video Scene", Mahidol University, Bangkok Thailand, May 2003.
3. Thou-Ho Chen ; Yu-Feng Lin ; Tsong-Yi Chen., " Intelligent Vehicle Counting Method Based on Blob Analysis in Traffic Surveillance", Second International Conference on Innovative Computing, Informatio and Control (ICICIC 2007),5-7 Sept. 2007
4. Liang Z. Charlea E.T. "Stereo- and Neural Network-Based Pedestrian Detection", IEEE Transactions on Intelligent transaction system, Vol. 1, No 3, September 2000.
5. Sama M. and Nikolaos P.P. "A Novel Method for Tracking and Counting Pedestrians in Real-Time Using a Single Camera", IEEE Transactions on Vehicular Technology, Vol. 50, No. 5, September 2001.
6. Finagling X., Xia L. and Kikuo F., "Pedestrian Detection and Tracking with Night Vision" , IEEE Transactions on Intelligent Transaction System, Vol. 6, No.1, March 2005.
7. Massimo B., Alberto B., Alessandra F., Thorsten G, and Marc-Michael M., "Pedestrian Detection for Driver Assistance Using Multiresolution Infrared Vision", IEEE Transaction on Vehicular Technology, Vol. 53, No 6, November 2004.
8. Chia-Jung P., Hsiao-Rong T., Yu-ming L., Hong-Yuan M.L. and Sei-Wang C., "Pedestrian detection and tracking at crossroads", Pattern Recognition, Vol.37, Issue 5, May 2004.
9. Birgi Tamersoy ,J.K. Aggarwal "Counting Vehicles in Highway Surveillance Videos" ,2010 20th International Conference on Pattern Recognition, 23-26 Aug. 2010
10. Jilong Zheng; Yaowei Wang; Wei Zeng., "CNN Based Vehicle Counting with Virtual Coil in Traffic Surveillance Video", 2015 IEEE International Conference on Multimedia Big Data, 20-22 April 2015
11. Javadzadeh, Ehsan Banihashemi and Javad Hamidzadeh., "Fast Vehicle Detection and Counting Using Background Subtraction Technique and Prewitt Edge Detection", International Journal of Computer Science and Telecommunications, [Volume 6, Issue 10, November2015] Reza
12. Wei Fan ; Yong Li., "Accuracy analysis of sigma-point Kalman filters", 2009 Chinese Control and Decision Conference, 17-19 June 2009

Authors: **Rahila Jan, Mohd. Irshad Malik, Amanpreet Tangri**

Paper Title: **Influence of Lime, Rice Husk Ash and Coconut Fibre on Strength Properties of Subgrade**

Abstract: Soil stability is a significant criterion in the field of development, for soil which needs adequate steadiness, different adjustment strategies can be embraced. The entrenched methods of soil adjustment regularly utilize such establishing operators like cement. Substitution of solidifying substance with commercial or agriculture outcome is profoundly attractive. Rice husk ash is an extremely prospective agriculture dissipates as pozzolanic materials that bring about a prevalent property after joined with lime. Also, coconut fibre is well known for its durability and high resistance and gives well establishing results when combined with lime and rice husk ash. This study worked on the experimental investigation of clayey soil with admixtures like lime, rice husk ash and coconut fibre. This study included the calculation of properties of the soil as consistency limits and strength characteristics. Clay type of soil is used in this study. In view of compaction, expansion of lime, RHA and coconut fibre diminishes the dry density and expands the moisture content. From the perspective of strength characteristics and economical terms, expansion of 6% lime, 8 % RHA and 1 % coconut fibre are prescribed as ideal value for subgrade soil adjustment.

Keywords: soil stabilisation, lime, RHA, coconut fibre, clay.

References:

1. Abarajithan. G, Rishab Kumar. P, Srikanth. R & Barathidason. P, 2017, feasibility of Soil stabilization using rice husk ash and coir fibre, International Journal of Engineering Research & Technology, Vol. 6, Issue 04.
2. Leema Peter, P K Jayasree, K Balan & Alaka Raj S, 2016, Laboratory investigation in the improvement of subgrade characteristics of expansive soil stabilised with coir waste, Transportation Research Procedia, pp 558-566.
3. Deepak Gupta & Arvind Kumar, 2016, Performance evaluation of cement-stabilized pond ash-rice husk ash clay mixture as a highway construction material, Journal of Rock Mechanics and Geotechnical Engineering, pp 159-169.
4. Akshaya Kumar Sabat ,2014 , Engineering properties of an expansive soil stabilized with rice husk ash and lime sludge, International Journal of Engineering and Technology,
5. Liet Chi Dang, Behzad Fatahi, and Hadi Khabbaz, 2016, Behaviour of expansive soils stabilized with hydrated lime and bagasse fibres. The 3rd International Conference on Transportation Geotechnics, Volume 143, pp 658–665.
6. M. Sai Nandan, K. Venkata Sai, P. Rakesh, N.Sandeep Kumar & K.Shyam Chamberlin, 2020, Stabilisation of red soil by using coconut coir fibre and rice husk ash, International Journal of Innovative Technology and Exploring Engineering, Volume-9, Issue-3.

137.

767-772

138. Authors: **Abdolhossein Mohammadrahimi, Mesbah Sayebani**

Paper Title: **Failure Probability and Reliability of Hatch Cover of Bulk Carrier Subjected To Lateral Pressure Load**

Abstract: One of the situations that may cause severe damage and even sinking of bulk bulkheads is the destruction of the hatch cover and as a consequence of the ship's waterlogging. This destruction may be due to heavy loads on the page, such as shock wave loads. Considering this, it is very important to investigate the possibility of structural failure in this situation. In this paper, using a MATLAB programming language developed for the FORM method, we have tried to summarize the reliability analysis on two models of bulk carrier storage models. To achieve this, first, the algorithm of the method of expression, and then the limit state function of this failure state and its components are described, then the probability of failure of these two models of the storage compartment is calculated.

773-782

Keywords: FORM method; reliability; Health index; Limit state function.

References:

1. Ship structures committee, <http://www.shipstructure.org/derby.shtml>, 15.9.2019
2. M. Zarei, . M. Zebardast, "ultimate strength analysis of hatch cover of bulk carrier", 11th national conference of marine industries of Iran, 2009.
3. International Convention of Load Lines, Annex I: Determinations for load lines, Regulation 15 in Chap. 11, 1966.
4. IACS: Evaluation of Scantlings of Hatch Covers of BulkCarrier Cargo Holds, IACS Requirement, 1997, vol. 1. 1997.
5. T. Yao, et. all, "Collapse strength of hatch cover of bulk carrier subjected to lateral pressure load", J. of Marine Structures, Vol. 16, 2003.
6. S-K. Choi, R. V. Grandhi and R. A. Canfield, 2007, Reliability-based Structural Design, Springer-Verlag London Limited 2007, PP. 80-151
7. A. M. Freudenthal, J. M. Garrelts, and M. Shinozuka, "The Analysis of Structural Safety," Journal of the Structural Division, ASCE, Vol. 92, No. ST1, 1966, pp. 267-325.
8. FSA of Bulk Carrier for end watertight integrity, Annex 4, Hatch cover failure scenarios, IACS, 2000.

Authors: Sagar S. Tikar, Rajendra A. Patil

Paper Title: Lane Detection and Tracking using Recursive HOG Transform for Advance Driver Assistance

Abstract: Numerous individuals pass away every year in roadway crashes brought about by driver's absent mindedness. Path discovery frameworks are helpful in maintaining a strategic distance from these mishaps as wellbeing is the primary motivation behind these frameworks. Such frameworks have the objective to distinguish the path marks and to caution the driver on the off chance that the vehicle tends to leave from the path. A path location framework is a significant component of numerous smart vehicle frameworks. Path recognition is a difficult undertaking in light of the differing street conditions that one can run over while driving. In the previous barely any years, various methodologies for path discovery were proposed and effectively illustrated. Right now, a concise outline of existing strategies, we present a vigorous path discovery dependent on recursive HOG change. In path stamping acknowledgment, dimensional scale information, progressively changing area of plotting and recursive HOG change procedures are utilized to recognize path markings effectively. Trial results show that the proposed calculation is viable in picture pre-processing and can identify the path checking and vehicle precisely with less time.

Keywords: Recursive HOG transform; lane detection; lane departure; region of interest.

References:

1. F. Mariut, C. Fosallau and D. Petrisor, "Lane Mark Detection Using Hough Transform", In IEEE International Conference and Exposition on Electrical and Power Engineering, pp. 871 - 875, 2012.
2. S. Srivastava, R. Singal and M. Lumb, "Efficient Lane Detection Algorithm using Different Filtering Techniques", International Journal of Computer Applications, vol. 88, no.3, pp. 975-8887, 2014.
3. Borkar A, M. Hayes, M.T. Smith and S. Pankanti , "A Layered Approach To Robust Lane Detection At Night" , In IEEE International Conference and Exposition on Electrical and Power Engineering, Iasi, Romania, pp. 735 - 739, 2011.
4. Z. Kim, "Robust Lane Detection and Tracking in Challenging Scenarios", In IEEE Transactions on Intelligent Transportation Systems, vol. 9, no. 1, pp. 16 - 26, 2008.
5. Qingquan Li, Jian Zhou, Bijun Li, Yuan Guo and Jinsheng Xiao Robust Lane-Detection Method for Low-Speed Environments Sensors 2018, 18, 4274; doi:10.3390/s18124274 www.mdpi.com/journal/sensors
6. Y.U. Yim and S.- Y. Oh, "Three-feature based automatic lane detection algorithm (TFALDA) for autonomous driving," IEEE Trans. Intell. Transp. Syst., vol. 4, no. 4, pp. 219-225, Dec. 2003.
7. S. Sehestedt, S. Kodagoda, A. Alempijevic, and G. Dissanayake, "Robust lane detection in urban environments," in Proc. IEEE Intell. Robots Syst., Oct. 2007, pp. 123-128.
8. M. Aly, "Real time detection of lane markers in urban streets," in Proc. IEEE Intell. Veh. Symp., Jun. 4-6, 2008, pp. 7-12.
9. Z. Kim, "Robust lane detection and tracking in challenging scenarios," IEEE Trans. Intell. Transp. Syst. , vol. 9, no. 1, pp. 16-26, Mar. 2008.
10. H.Y. Cheng, C.C. Yu, , C. C. Tseng, K. C. Fan, J. N. Hwang, and B. S. Jeng, "Hierarchical lane detection for different types of roads," In Acoustics, Speech and Signal Processing (ICASSP), 2008 IEEE International Conference on pp. 1349-1352. IEEE, 2008.
11. Umar Ozgunalp, Rui Fan, Xiao Ai, and Naim Dahnoun "Multiple Lane Detection Algorithm Based on Novel Dense Vanishing Point Estimation", IEEE TRANSACTIONS ON INTELLIGENT TRANSPORTATION SYSTEMS, VOL. 18, NO. 3, MARCH 2017 621
12. M. Meuter, S. Muller, A. Mika, S. Hold, C. Nunn and A. Kummert, "A Novel Approach to Lane Detection and Tracking", In IEEE 12th International Conference on Intelligent Transportation Systems, pp. 1-6, 2009.
13. S. Zhou, Y. Ziang, J. Xi, J. Gong, G. Xiong and H. Chen, "A novel lane detection based on geometrical model and gabor filter", in IEEE Intelligent Vehicles Symposium, pp. 59-64, 2010. [19] Z. Teng, J.H. Kin and D.J. Kang, "Real-time Lane detection by using multiple cues", In IEEE International Conference on Control Automation and Systems, , pp. 2334 - 2337, 2010.
14. N. Phaneendra, G. Goud and V.Padmaja, "Accident Avoiding System Using Lane Detection", International Journal of Research in Electronics and Communication Engineering, vol. 1, no. 1, pp. 1 - 4, 2013. [21] D. Pomerleau and Jochem, "Rapidly Adapting Machine Vision for Automated Vehicle Steering, IEEE, 1996.
15. B. M. Broggi, "GOLD: A parallel real-time stereo Vision system for generic obstacle and lane detection", IEEE Transactions on Image Processing, pp. 4-6, 1998.
16. C. Kreucher and S. K. Lakshmanan, A Driver warning System based on the LOIS Lane detection Algorithm, Proceeding of IEEE International Conference On Intelligent Vehicles. pp. 17 -22, 1998.
17. Y. Wang, E. K. Teoha, D. Shen. Lane detection and tracking using B-Snake", In: Image and Vision Computing 22, pp: 269-28, 2004. M. Chen., T. Jochem and D. T. Pomerleau, "AURORA: A Vision-Based Roadway Departure Warning System", In Proceeding of IEEE Conference on Intelligent Robots and Systems, 2004. [26] C. R. Jung and C. R. Kelber, "Lane following and lane departure using a linear-parabolic model" In: Image and Vision Computing, pp. 1192-1202, 2005.

140.	Authors:	K. Karthikeyan, S. Sivaprakasam, N. Nagarajan	<p>Abstract: Seventeen Vertical Electrical Soundings were carried away in vellar river Bank of Bhuvanagiri and Chidambaram Taluk, Cuddalore District, Tamil Nadu to classify the development and management through Artificial Recharge zone in alluvium formation and identify the sub-surface lithological series. The most electrode division used is 100m by Schlumberger pattern. Geologically, sedimentary rocks are alluvium and tertiary formations. The resistivity reports were interpreted by using IPI2WIN software. The construe outcome shows 3 and 4 layer strata. It has been prepared pseudo section in comparison with the subsurface strata to validate the results.</p> <p>Keywords: Vellar River, Artificial Recharge, Vertical Electrical Resistivity.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Archie, G. E., The Electrical Resistivity Log as an Aid in Determining Some Reservoir Characteristics, Transactions of the American Institute of Mining Metallurgical Engineers, Volume. 146, Issue. 1, 1942, Pp. 54-61. 2. Balasubramanian, A 1986 , Hydrogeological investigations of Tambaraparni River Basin, Tamil Nadu, Unpublished Ph.D. Thesis, University of Mysore. 3. Geoelectrical Surveys for Characterization of the Coastal Saltwater Intrusion in Metapontum Forest reserve (Southern Italy). International Journal Of Geophysics volume 2012, Article Id: 238478, 8 pages doi:10.1155/2012/23847 4. Karthikeyan. K., Poongothai.S., 2012, Identification of Groundwater Potential Zones using Electrical Resistivity Technique in Lower Vellar Watershed, Cuddalore District, International Journal of Earth Sciences and Engineering, Vol. 05, No. 01, Pp.121-126. 5. Kelly, W.E. And M. Stanislav, 1993. Applied Geophysics In Hyrogeological And Engineering Practice. Elsevier, Amesterdam, Pp: 292.
	Paper Title:	Hydrogeophysical Assessment for Groundwater Resources In Lower Vellar Watershed, Cuddalore District, Tamilnadu, India	
141.	Authors:	Bhalindar Singh, Chandana Sarkar	<p>Abstract: Rapid growth and development of urban area is a worldwide phenomenon and it has become one of the certain issues facing by most of the urban areas in developing countries like India. The foremost reasons of this type of speedy growth are uncontrolled urbanisation coupled with accelerated population growth, massive influx of illegal immigrants and unorganized expansion of the urban areas. Accordingly, urban growth led to radical changes in land-use/ land-cover, which manifests profound impact on urban environment through the process of fast alteration of natural landscapes. In this context, the present study aims at comparing the pattern of urban growth and concerning land use and land cover change dynamics of two emerging frontier cities in India i.e., Silchar and Balurghat. For the purpose of the study, multi-temporal Landsat data have been used for analysing land use/ land cover changes in both cities for the period of 1988-2019. Hence, land use and land cover maps are prepared by applying maximum likelihood algorithm of supervised classification method with the help of ERDAS Imagine software. The accuracy assessment was also done by applying statistical method of Kappa coefficient. Further, the study reveals that both the cities have experienced with rapid rate of horizontal expansion. This has led to drastic change with sharpe conversion of vegetation and open field to built-up areas and which have caused innumerable environmental problems and hampers the sustainable growth of both two cities. Therefore, there has been dire need for proper planning to sustain balance of future urban growth and overall development of the areas.</p> <p>Keywords: Urban growth, Land use/ Land cover, Change detection, Silchar and Balurghat.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Census of India, (2011). District Census Handbook: Cachar District. Registrar General of India. 2. Census of India, (2011). District Census Handbook: Dakshin Dinajpur District. Registrar General of India. 3. Guan, D., Li, H., Inohae, T., Su, W., Nagaie, T., & Hokao, K. (2011). Modelling Urban Land use Change by the Integration of Cellular Automaton and Markov Model. Ecological Modelling, 222, 3761–3772. 4. Halmy, A. W. H., Gessler, P. E., Hicke, J. A., & Salem, B. B. (2015). Land use/land cover Change Detection and Prediction in the North-Western Coastal Desert of Egypt using Markov–CA. Applied Geography, 63, 101–112. 5. Kumar (2011). Land use Land Cover Change Detection Using Remote Sensing Data and GIS Tools: A Case Study of Delhi State. M.Sc. thesis. 6. Lambin, E. F., Geist, H., & Lepers, E. (2003). Dynamics of Land Use and Cover Change in Tropical Regions. Annu. Rev. Environ. Resour., 28, 205–241. 7. Lopez, E., Bocco, G., Mendoza, M., & Duhau, E. (2001). Predicting Land Cover and Land use Change in the Urban Fringe a Case in Morelia City, Mexico. Landscape and Urban Planning, 55(4), 271–285. 8. Mandal, J., Ghosh, N., & Mukhopadhyay, A. (2019). Urban Growth Dynamics and Changing Land-Use Land-Cover of Megacity Kolkata and Its Environs. Journal of the Indian Society of Remote Sensing. Available at: https://doi.org/10.1007/s12524-019-01020-7 (0123456789(-, -volV)(0123456789,-(-,volV). 9. Munthali, G. M., Botai, O. J., Davis, N. & Adeola, M. A. (2019). Multi-Temporal Analysis of Land Use and Land Cover Change Detection for Dedza District of Malawi using Geospatial Techniques. International Journal of Applied Engineering Research, 14(5), 1151-1162. 10. Pauchard, A., Aguayo, M., Pen ˜a, E., & Urrutia, R. (2006). Multiple Effects of Urbanization on the Biodiversity of Developing Countries: The Case of a Fast-Growing Metropolitan Area (Concepcion Chile). Biological Conservation, 127(3), 272–281. 11. Ramachandra, T.V., & Kumar, U., (2004). Geographic Resources Decision Support System for Land Use, Land Cover Dynamics Analysis. Proc. of the FOSS/GRASS Users Conference, Bangkok, 12-14 September 2004.
Paper Title:	Monitoring Urban Growth and Detection of Land Use/ Land Cover Change in Silchar City, Assam and Balurghat City, West Bengal		

790-795

796-803

	<ol style="list-style-type: none"> 12. Sala, O. E., Chapin, F. S., Armesto, J. J., Berlow, E., Bloomfield, J., Dirzo, R. & Wall, D. H. (2000). Biodiversity: Global Biodiversity Scenarios for the year 2100. <i>Science</i>, 287, 1770–1774. 13. Seto, K. C., & Kaufmann, R. K. (2003). Modelling the Drivers of Urban Land use Change in the Pearl River Delta, China: Integrating Remote Sensing with Socioeconomic Data. <i>Land Economics</i>, 79(1), 106–121 14. Sudhira, H.S., RamachandraT. V., & Jagadish, K. S. (2004). Urban Sprawl Metrics, Dynamics and Modelling Using GIS. <i>Int. J. Appl. Earth Obs. Geoinf.</i>, 5 (1), 29-39. 15. Thakur, B. & Poudel, K.P. (2000). Environmental Implications of Land use Land cover Change in the Watershed of Central Nepal Himalaya: 1960- 1999, <i>Annals of the National Association of Geographers, India</i>, XX (2), 98-118. 16. Wu, Y., Liu, S., Sohl, T. L., & Young, C. J. (2013). Projecting the Land Cover Change and its Environmental Impacts in the Cedar River Basin in the Midwestern United States. <i>Environmental Research Letters</i>, 8, 024025. 	
142.	<p>Authors: Naga Siva K, Raj Kumar G, Shankar T, Chandru S, Rajesh A</p>	
	<p>Paper Title: Design of Highly Sensitive Photonic Crystal Fiber for Sensing Harmful Chemicals</p>	
	<p>Abstract: Highly sensitive Photonic Crystal Fiber (PCF) has been designed and investigated for sensing the most harmful chemicals that exist in the world. The proposed structure of PCF consists of a solid circular core in which the samples of the chemicals are to be filled, surrounded by a hexagonal air-hole ring. The outermost cladding region comprises circular air-holes arranged in a helical (spiral) manner. Moreover, the sensitivity ratio of the liquid samples is investigated with respect to the wavelength. Sensitivity is monitored by checking for different wavelengths that range from 0.4μm to 1.85μm. With this proposed structure, the relative sensitivity of the chemicals such as paraffin liquid (n=1.48), pyridine (n=1.51), and bromobenzene (n=1.56) are found to be 78.49%, 82.99%, and 89.34% respectively. The proposed PCF structure is used to detect chemicals and any liquids due to its high sensitivity, large effective mode area, and low confinement loss.</p> <p>Keywords: Effective mode area, relative sensitivity, confinement loss, photonic crystal fiber, etc.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Portosi V₁, Laneve D₁, Falconi MC₁, Prudenzano F₁, “Advances on Photonic Crystal Fiber Sensors and Applications”, <i>Sensors</i> (Basel, Switzerland), 21 Apr 2019, 19(8) 2. H. Y. Fu, Sunil K. Khijwania, H. Y. Tam, P. K. A. Wai, and C. Lu, “Polarization maintaining photonic-crystal-fiber-based all-optical polarimetric torsion sensor”, <i>Applied Optics</i>, Vol. 49, Issue 31, pp. 5954-5958,(2010). 3. A.Sanz-Felipe, J.C.Martín, “Response of a PCF-based modal interferometer to lateral stress: Resonant behavior and performance as sensor”, <i>Optics and Lasers in Engineering</i> Volume 98, November 2017, Pages 181-189 4. S. Upadhyay, V.L. Kalyani, C. Charan, “Designing and optimization of nano-ring resonator-based photonic pressure sensor, in <i>Proceedings of International Conference on ICT for Sustainable Development</i>”, Springer, Singapore, 2016, pp. 269–278. 5. DiegoLopezTorres, CesarElosua, JoelVillatoro, JosebaZubia, Manfred Rothhardt, KaySchuster, Francisco J.Arregui, “Photonic crystal fiber interferometer coated with a PAH/PAA nanolayer as humidity sensor”, <i>Sensors, and Actuators B: Chemical</i>, Volume 242, April 2017, Pages 1065-1072 6. Y. Yu, X. Li, X. Hong, Y. Deng, K. Song, Y. Geng, W. Tong, “Some features of the photonic crystal fiber temperature sensor with liquid ethanol filling”, <i>Opt. Express</i> 18 (15) (2010) 15383–15388. 7. A.M. Cubillas, S. Unterkofler, T.G. Euser, B.J. Etzold, A.C. Jones, P.J. Sadler, P.S.J. Russell, “Photonic crystal fibers for chemical sensing and photochemistry”, <i>Chem. Soc. Rev.</i> 42 (22) (2013) 8629–8648. 8. Maung Kyaw Khaing Oo, Yun Han, Jiri Kanka, Svetlana Sukhishvili, and Henry Du, “Structure fits the purpose: photonic crystal fibers for evanescent-field surface-enhanced Raman spectroscopy”, <i>Optics Letters</i>, Vol. 35, Issue 4, pp. 466-468,(2010) 9. Md. Jayed Bin, Murshed Leon, Md. AhasanKabir, “Design of a liquid sensing photonic crystal fiber with high sensitivity, birefringence & low confinement loss”, <i>sensing and bio-sensing research</i>, volume 28, June 2020,10033. 10. Mohammad, MobarakHossain, Nazrul Islam, Shah MostafaKhaled, “A nonlinear photonic crystal fiber for liquid sensing application with high birefringence and low confinement loss”, <i>sensing and bio-sensing research</i>”, Volume 22, February 2019, 100252. 11. Etu Podder, Md. Bellal Hossain, Rayhan Habib Jibon, Abdullah Al-Mamun Bulbul & Himadri Shekhar Mondal, “Chemical sensing through photonic crystal fiber: sulfuric acid detection”, <i>Frontiers of Optoelectronics</i> volume 12, pages372–381(2019). 12. Revathi Senthil, Anamika Soni, Kushagra Bir, Raghavee Senthil & Prabu Krishnan, “Circular-Pattern Photonic Crystal Fiber for Different Liquids with High Effective Area and Sensitivity”, <i>Plasmonics</i> volume 14, pages1783–1787(2019). 13. Bikash Kumar Paul, Kawsar Ahmed, Dhasarathan Vigneswaran, Shuvo Sen & Md. Shadidul Islam, “Quasi photonic crystal fiber for chemical sensing purpose in the terahertz regime: design and analysis”, <i>Optical and Quantum Electronics</i> volume 51, Article number: 238 (2019). 14. R.Malavika, K.Prabu, “Design optimization of a highly sensitive spiral photonic crystal fiber for liquid and chemical sensing applications”, <i>Optical Fiber Technology</i>, Volume 51, September 2019, Pages 36-40. 15. Md.ShadidulIslam, Bikash, Kumar Paul, Kawsar Ahmed, Sayed Asaduzzaman, “Rhombic core photonic crystal fiber for sensing applications: Modeling and analysis”, <i>Optik</i>, Volume 157, March 2018, Pages 1357-1365. 16. S. Asaduzzaman, B. K. Paul, and K. Ahmed, “Enhancement of sensitivity and birefringence of a gas sensor on micro-core based photonic crystal fiber” in <i>Electrical Engineering and Information Communication Technology (ICEEICT)</i>, 2016 3rd International Conference on, 2016, pp. 1-4. 17. M.I. Islam, M. Khatun, S. Sen, K. Ahmed, S. Asaduzzaman, “Spiral photonic crystal fiber for gas sensing application”, <i>IEEE 9th Int. Conf. on Electrical and Computer Engineering (ICECE)</i> (2016), pp. 238-242. 18. Arti Agrawal, N. Kejalakshmy, J. Chen, B. M.A. Rahman, and K. T.V. Grattan, “Golden spiral photonic crystal fiber: polarization and dispersion properties”, <i>Optics Letters</i>, Vol. 33, Issue 22, pp. 2716-2718(2008) 19. J.-P. Berenger, “A perfectly matched layer for the absorption of electromagnetic waves”, <i>Journal of computational physics</i>, vol. 114, pp. 185-200, 1994. 20. K. Ahmed, M. S. Islam, and B. K. Paul, “Design and numerical analysis: effect of core and cladding area on hybrid hexagonal microstructure optical fiber in environment pollution sensing applications,” <i>Karbala International Journal of Modern Science</i>, Vol. 3, pp. 29-38, 2017. 21. S. Asaduzzaman and K. Ahmed, "Proposal of a gas sensor with high sensitivity, birefringence, and nonlinearity for air pollution monitoring”, <i>Sensing and Bio-Sensing Research</i>, Vol. 10, pp. 20-26, 2016. 22. W. L. Ng, A. A. Rifat, W. R. Wong, D. C. Tee, and F. R. Maham Adikan, “Enhancement of evanescent field exposure in a photonic crystal fiber with interstitial holes”, <i>Journal of Modern Optics</i>, Vol. 64, pp. 1544-1549, 2017. 23. R. A. Aoni, R. Ahmed, M. M. Alam, and S. Razzak, “Optimum design of a nearly zero ultra-flattened dispersion with lower confinement loss photonic crystal fibers for communication systems”, <i>Int. J. Sci. Eng. Res</i>, Vol. 4, 2013. 	804-809

	24. M. De, R. K. Gangwar, and V. K. Singh, "Designing of highly birefringence, dispersion-shifted decagonal photonic crystal fiber with low confinement loss", <i>Photonics and Nanostructures-Fundamentals and Applications</i> , Vol. 26, pp. 15-23, 2017.	
	25. A. Rifat, R. Ahmed, G. A. Mahdiraji, and F. M. Adikan, "Highly Sensitive D-Shaped Photonic Crystal Fiber-Based Plasmonic Biosensor in Visible to Near-IR", <i>IEEE Sensors Journal</i> , Vol. 17, pp. 2776-2783, 2017	
	Authors: Sailee Wakhare, Priya Pise, Rutuja Khalate, Shivani Birajdar, Sonali Survase	
	Paper Title: Secure Login System using MD5 and AES Attribute Based Encryption Algorithm	
143.	<p>Abstract: The cryptographic hash work and symmetric encryption make it hard to break Passwords. Secure secret word stockpiling is a crucial perspective in framework dependent on secret word verification, which is as yet the most broadly utilized confirmation system, notwithstanding its some security imperfections. So basically, this work is based on providing security to the systems. Right now, propose a secret word verification structure that is intended for secure secret word stockpiling and could be effectively coordinated into existing confirmation frameworks. In our system, first, the got plain secret key from a customer is worked out a cryptographic hash work. At that point; the hashed secret word is changed over into a negative secret word. At last, the negative secret word is encoded into an Encrypted Negative Password (ENP) utilizing a symmetric-key calculation, and multi-emphasis encryption could be utilized to additionally improve security. The cryptographic hash work and symmetric encryption make it hard to split passwords from ENPs. We are going to use message digest i.e MD5 and AES algorithm for this purpose. Besides, there are loads of comparing ENPs for a given plain secret key, which makes precomputation assaults infeasible. The calculation multifaceted nature investigations and examinations show that the ENP could oppose query table assault and give more grounded secret word insurance under lexicon assault. It merits referencing that the ENP doesn't present additional components other than this, the ENP could in any case oppose precomputation assaults. We are giving shading coding framework just as key logger idea secret key reason. This shading code framework is hard to break to third person. In key lumberjack the keypad of framework is mix, each time it will change the grouping of catches of 0-9 numbers, subsequent to logging the client one otp will send to client email just as the key squence of the keypad will send on client email. By utilizing this otp and key grouping client will login to framework and it will do the further exchange process. This framework will valuable in future for any financial framework or any verification reason will be utilized.</p> <p>Keywords: Authentication, framework, symmetric key lookup table attack, negative database, secure password storage.</p> <p>References:</p> <ol style="list-style-type: none"> 1. J. Bonneau, C. Herley, P. C. van Oorschot, and F. Stajano, "Passwords and the evolution of imperfect authentication," <i>Communications of the ACM</i>, vol. 58, no. 7, pp. 78–87, Jun. 2015. 2. M. A. S. Gokhale and V. S. Waghmare, "The shoulder surfing resistant graphical password authentication technique," <i>Procedia Computer Science</i>, vol. 79, pp. 490–498, 2016. 3. J. Ma, W. Yang, M. Luo, and N. Li, "A study of probabilistic password models," in <i>Proceedings of 2014 IEEE Symposium on Security and Privacy</i>, May 2014, pp. 689–704. 4. A. Adams and M. A. Sasse, "Users are not the enemy," <i>Communications of the ACM</i>, vol. 42, no. 12, pp. 40–46, Dec. 1999. 5. E. H. Spafford, "Opus: Preventing weak password choices," <i>Computers & Security</i>, vol. 11, no. 3, pp. 273–278, 1992. 6. Y. Li, H. Wang, and K. Sun, "Personal information in passwords and its security implications," <i>IEEE Transactions on Information Forensics and Security</i>, vol. 12, no. 10, pp. 2320–2333, Oct. 2017. 7. Priya Dhudhale-Pise, Dr. Nilesh J. Uke "Hybrid Deduplication for Secure Data Sharing Using Erasure Techniques and HIDC" year 2017. 8. Priya Dhudhale-Pise, "Content-Based Deduplication Of Data Using Erasure Technique for Rto Cloud" year 2018. 	810-814
144.	Authors: Kusum, Supriya Panda	
	Paper Title: Detecting Twitter's Impact on COVID-19 Pandemic in India	
	<p>Abstract: India has etched a higher place in the economy as a fast growing country with a large population. India is one of the leading Twitter usage countries, with 13.15 million users as of April 2020 [1]. A novel coronavirus (COVID-19), which is a pandemic, has been threatening nearly everywhere. This terrible disease started at the end of 2019 from WUHAN in China and is spreading very quickly virtually all over the world. This disease's whistleblower Dr. Li Wenliang also died from coronavirus on Feb 7, 2020. According to the WHO, on 30 January 2020, the outbreak was declared a public health emergency. In response to COVID19 he called for National Unit and Global Solidarity. All the countries in the world are linked with each other due to globalization, the proportion of labor finances migrating economically. In this paper, Twitter reflects the reality of the world. The main issue like signs and symptoms, prevention measures, and medicines which are related to this disease are discussed. Twitter is used for detecting this disease by analyzing data on social media. Nowadays social media sites are very fast and less costly for communication and exchange of information, ideas, and thoughts. This disease is being monitored by Twitter. If there is any delay it will result in a big damage to not only society but also the country. There are two methods:</p> <ol style="list-style-type: none"> 1. Monitoring system 2. Awareness and alertness <p>Keywords: Twitter, COVID-19, SVM, Machine Learning, Dynamic.</p> <p>References:</p>	815-819

	<ol style="list-style-type: none"> 1. https://www.statista.com/statistics/242606/number-of-active-twitter-users-in-selected-countries/ 2. https://en.wikipedia.org/wiki/Twitter 3. Boyd, D., Golder, S. and Lotan, G., 2010, January. Tweet, tweet, retweet: Conversational aspects of retweeting on twitter. In 2010 43rd Hawaii International Conference on System Sciences (pp. 1-10).IEEE. 4. Sakaki, T., Okazaki, M. and Matsuo, Y., 2010, April. Earthquake shakes Twitter users: real-time event detection by social sensors. In Proceedings of the 19th international conference on World wide web (pp. 851-860). 5. Diaz-Aviles, E., Stewart, A., Velasco, E., Denecke, K. and Nejdil, W., 2012, May. Epidemic Intelligence for the Crowd, by the Crowd.In Sixth International AAAI Conference on Weblogs and Social Media. 6. Hansen, L.K., Arvidsson, A., Nielsen, F.Å., Colleoni, E. and Etter, M., 2011. Good friends, bad news-affect and virality in twitter. In Future information technology (pp. 34-43).Springer, Berlin, Heidelberg. 7. Chew, C. and Eysenbach, G., 2010. Pandemics in the age of Twitter: content analysis of Tweets during the 2009 H1N1 outbreak. PloS one, 5(11). 8. Elkin, P.L., Brown, S.H., Bauer, B.A., Husser, C.S., Carruth, W., Bergstrom, L.R. and Wahner-Roedler, D.L., 2005. A controlled trial of automated classification of negation from clinical notes. BMC medical informatics and decision making, 5(1), p.13. 9. Chapman, W., Dowling, J. and Chu, D., 2007, June.ConText: An algorithm for identifying contextual features from clinical text. In Biological, translational, and clinical language processing (pp. 81-88). 10. Hu, X., Tang, L. and Liu, H., 2011, October.Enhancing accessibility of microblogging messages using semantic knowledge.In Proceedings of the 20th ACM international conference on Information and knowledge management (pp. 2465-2468). 11. Chunara, R., Andrews, J.R. and Brownstein, J.S., 2012. Social and news media enable estimation of epidemiological patterns early in the 2010 Haitian cholera outbreak. The American journal of tropical medicine and hygiene, 86(1), pp.39-45. 12. Huang, Y. and Lowe, H.J., 2007. A novel hybrid approach to automated negation detection in clinical radiology reports. Journal of the American medical informatics association, 14(3), pp.304-311. 13. Aramaki, E., Maskawa, S. and Morita, M., 2011, July. Twitter catches the flu: detecting influenza epidemics using Twitter. In Proceedings of the conference on empirical methods in natural language processing (pp. 1568-1576).Association for Computational Linguistics. 14. Samuel, J., Ali, G.G., Rahman, M., Esawi, E. and Samuel, Y., 2020.COVID-19 Public Sentiment Insights and Machine Learning for Tweets Classification. Nawaz and Rahman, Md. Mokhlesur and Esawi, Ek and Samuel, Yana, COVID-19 Public Sentiment Insights and Machine Learning for Tweets Classification (April 19, 2020). 15. Lamos, V. and Cristianini, N., 2010, June.Tracking the flu pandemic by monitoring the social web.In 2010 2nd international workshop on cognitive information processing (pp. 411-416).IEEE. 16. Ginsberg, J., Mohebbi, M.H., Patel, R.S., Brammer, L., Smolinski, M.S. and Brilliant, L., 2009. Detecting influenza epidemics using search engine query data. Nature, 457(7232), pp.1012-1014. 17. Jain, V.K. and Kumar, S., 2015.An effective approach to track levels of influenza-A (H1N1) pandemic in India using twitter. Procedia Computer Science, 70, pp.801-807. 18. Polgreen, P.M., Chen, Y., Pennock, D.M., Nelson, F.D. and Weinstein, R.A., 2008.Using internet searches for influenza surveillance. Clinical infectious diseases, 47(11), pp.1443-1448. 							
145.	<table border="1"> <tr> <td>Authors:</td> <td>Manjesh Kumar D, Nikhil B K, Likith U, Nikhil C, B N Shashikala</td> </tr> <tr> <td>Paper Title:</td> <td>Wireless Two-Way Restaurant E-menu Food Ordering System with Robot Delivery</td> </tr> <tr> <td colspan="2"> <p>Abstract: This paper presents the design and implementation of E-restaurant with Robot delivery. It considered as the possible solution for the automation of present food ordering process in restaurants and hotels. The proposed system mainly consists of customer, robotic and maintainer section. The customer can place an order through the tab provided on the table which has the food menu in the restaurant website. This placed order is displayed on the system (PC) at maintainer section. Customer section's website and maintainer section PC's is connected through message queue telemetry protocol (MQTT). Maintainer can dynamically update the e-menu available in website according to availability of food in the restaurant and its prices. Kitchen staff prepares the food and places on the robot's tray and corresponding table number is selected. The robot is designed using line follower mechanism where it follows the black path laid and it will detect the table using the infrared sensor by counting the number of black patches it encounters while moving on the black path. Once the food is taken by the customer, robot will go back to the maintainer section automatically and waits for another order to be placed. The proposed system removes the language barrier between customer and waiter while ordering and to fasten the food ordering and serving process. It reduces the labor cost for the restaurants and waiting time for the customers.</p> <p>Keywords: Waiter Robot, Line Following Robot, Ultra-sonic Sensor, IR Sensor, E-Menu.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Piesk`a, S., Liuska, M., Jauhiainen, J., Auno, A. and Oy, D., "Intelligent restaurant system Smartmenu", IEEE 4th International Conference on Cognitive Infocommunications (CogInfoCom), vol. 12, no. 17, pp. 625-630, Oct 2013. 2. Sure, R.K. and Patil, S., "Android Based Autonomous 3. Coloured Line Follower Robot", International Journal of Research and Technology, vol. 04, no. 05, pp. 1998-1999, Dec 2014. 4. Guxin, L. and Qiufang, L., "Construction of website-based platform on development assessment of children with autism", 3rd International Conference on Consumer Elec- tronics, Communications and Networks, vol. 17, no.12, pp. 199-202, Nov 2013. 5. L. Hall, A. Gordon, L. Newall, and R. James, "Development of Robot Restaurant Simu- lator ", 16th International Conference on Ubiquitous Robot , vol. 7, no. 17, pp. 597-602, Dec 2015. 6. Shah, A., Ali, F., Sohali, S. and Khan, H., "Intelligent Robotic Waiter With Menu Ordering System", first International Electrical Engineering Congress, vol. 18, no. 2, pp. 13-14, Nov 2016. 7. Thanh, V.N., Vinh, D.P. and Nghi, N.T., "A development environment for intelligent applications on mobile devices", Expert Systems and Applications, vol. 27, no. 3, pp. 481-492, May2004. </td> </tr> </table>	Authors:	Manjesh Kumar D, Nikhil B K, Likith U, Nikhil C, B N Shashikala	Paper Title:	Wireless Two-Way Restaurant E-menu Food Ordering System with Robot Delivery	<p>Abstract: This paper presents the design and implementation of E-restaurant with Robot delivery. It considered as the possible solution for the automation of present food ordering process in restaurants and hotels. The proposed system mainly consists of customer, robotic and maintainer section. The customer can place an order through the tab provided on the table which has the food menu in the restaurant website. This placed order is displayed on the system (PC) at maintainer section. Customer section's website and maintainer section PC's is connected through message queue telemetry protocol (MQTT). Maintainer can dynamically update the e-menu available in website according to availability of food in the restaurant and its prices. Kitchen staff prepares the food and places on the robot's tray and corresponding table number is selected. The robot is designed using line follower mechanism where it follows the black path laid and it will detect the table using the infrared sensor by counting the number of black patches it encounters while moving on the black path. Once the food is taken by the customer, robot will go back to the maintainer section automatically and waits for another order to be placed. The proposed system removes the language barrier between customer and waiter while ordering and to fasten the food ordering and serving process. It reduces the labor cost for the restaurants and waiting time for the customers.</p> <p>Keywords: Waiter Robot, Line Following Robot, Ultra-sonic Sensor, IR Sensor, E-Menu.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Piesk`a, S., Liuska, M., Jauhiainen, J., Auno, A. and Oy, D., "Intelligent restaurant system Smartmenu", IEEE 4th International Conference on Cognitive Infocommunications (CogInfoCom), vol. 12, no. 17, pp. 625-630, Oct 2013. 2. Sure, R.K. and Patil, S., "Android Based Autonomous 3. Coloured Line Follower Robot", International Journal of Research and Technology, vol. 04, no. 05, pp. 1998-1999, Dec 2014. 4. Guxin, L. and Qiufang, L., "Construction of website-based platform on development assessment of children with autism", 3rd International Conference on Consumer Elec- tronics, Communications and Networks, vol. 17, no.12, pp. 199-202, Nov 2013. 5. L. Hall, A. Gordon, L. Newall, and R. James, "Development of Robot Restaurant Simu- lator ", 16th International Conference on Ubiquitous Robot , vol. 7, no. 17, pp. 597-602, Dec 2015. 6. Shah, A., Ali, F., Sohali, S. and Khan, H., "Intelligent Robotic Waiter With Menu Ordering System", first International Electrical Engineering Congress, vol. 18, no. 2, pp. 13-14, Nov 2016. 7. Thanh, V.N., Vinh, D.P. and Nghi, N.T., "A development environment for intelligent applications on mobile devices", Expert Systems and Applications, vol. 27, no. 3, pp. 481-492, May2004. 		820-824
Authors:	Manjesh Kumar D, Nikhil B K, Likith U, Nikhil C, B N Shashikala							
Paper Title:	Wireless Two-Way Restaurant E-menu Food Ordering System with Robot Delivery							
<p>Abstract: This paper presents the design and implementation of E-restaurant with Robot delivery. It considered as the possible solution for the automation of present food ordering process in restaurants and hotels. The proposed system mainly consists of customer, robotic and maintainer section. The customer can place an order through the tab provided on the table which has the food menu in the restaurant website. This placed order is displayed on the system (PC) at maintainer section. Customer section's website and maintainer section PC's is connected through message queue telemetry protocol (MQTT). Maintainer can dynamically update the e-menu available in website according to availability of food in the restaurant and its prices. Kitchen staff prepares the food and places on the robot's tray and corresponding table number is selected. The robot is designed using line follower mechanism where it follows the black path laid and it will detect the table using the infrared sensor by counting the number of black patches it encounters while moving on the black path. Once the food is taken by the customer, robot will go back to the maintainer section automatically and waits for another order to be placed. The proposed system removes the language barrier between customer and waiter while ordering and to fasten the food ordering and serving process. It reduces the labor cost for the restaurants and waiting time for the customers.</p> <p>Keywords: Waiter Robot, Line Following Robot, Ultra-sonic Sensor, IR Sensor, E-Menu.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Piesk`a, S., Liuska, M., Jauhiainen, J., Auno, A. and Oy, D., "Intelligent restaurant system Smartmenu", IEEE 4th International Conference on Cognitive Infocommunications (CogInfoCom), vol. 12, no. 17, pp. 625-630, Oct 2013. 2. Sure, R.K. and Patil, S., "Android Based Autonomous 3. Coloured Line Follower Robot", International Journal of Research and Technology, vol. 04, no. 05, pp. 1998-1999, Dec 2014. 4. Guxin, L. and Qiufang, L., "Construction of website-based platform on development assessment of children with autism", 3rd International Conference on Consumer Elec- tronics, Communications and Networks, vol. 17, no.12, pp. 199-202, Nov 2013. 5. L. Hall, A. Gordon, L. Newall, and R. James, "Development of Robot Restaurant Simu- lator ", 16th International Conference on Ubiquitous Robot , vol. 7, no. 17, pp. 597-602, Dec 2015. 6. Shah, A., Ali, F., Sohali, S. and Khan, H., "Intelligent Robotic Waiter With Menu Ordering System", first International Electrical Engineering Congress, vol. 18, no. 2, pp. 13-14, Nov 2016. 7. Thanh, V.N., Vinh, D.P. and Nghi, N.T., "A development environment for intelligent applications on mobile devices", Expert Systems and Applications, vol. 27, no. 3, pp. 481-492, May2004. 								
146.	<table border="1"> <tr> <td>Authors:</td> <td>S. Saratchandra Singh, Anish Thingujam, M.S.P. Subathra, S. Sanathoi Singh</td> </tr> <tr> <td>Paper Title:</td> <td>Design Aspects of Core Components of Stabilizer Transformer of given Power Rating</td> </tr> <tr> <td colspan="2"> <p>Abstract: There are wide ranges of transformers for voltage stabilizer. The autotransformers used in the voltage</p> </td> </tr> </table>	Authors:	S. Saratchandra Singh, Anish Thingujam, M.S.P. Subathra, S. Sanathoi Singh	Paper Title:	Design Aspects of Core Components of Stabilizer Transformer of given Power Rating	<p>Abstract: There are wide ranges of transformers for voltage stabilizer. The autotransformers used in the voltage</p>		825-831
Authors:	S. Saratchandra Singh, Anish Thingujam, M.S.P. Subathra, S. Sanathoi Singh							
Paper Title:	Design Aspects of Core Components of Stabilizer Transformer of given Power Rating							
<p>Abstract: There are wide ranges of transformers for voltage stabilizer. The autotransformers used in the voltage</p>								

stabilizers are designed and constructed under design specifications of standard assumptions. In this work, core components of autotransformer are designed using power rating as only input parameter, nevertheless, taking into consideration of standard assumptions. The bounded area of the flux of magnetic field forms basis for core area of electromagnetic induction of transformer. The core area of the electromagnetic induction and window area of transformer for housing copper windings, thus, have linkage with power rating and e.m.f equation of the transformer. Accordingly, we establish a relationship, in the form of equation, between core area and window area. The product of core area and window is equated to the numerical value of the product that has been determined from the power rating and standard assumptions of other design parameters. With the help of proportional relationship, standard as well as from aspect of desired look of the transformer, between length and breadth of the core area and similarly for window area, the dimensions of the core components of the transformer are designed. The designed parameters are tested for feasibility and a transformer under the designed parameters is constructed to validate the experimental result with the theoretical values of the parameters of the transformer. This design is used to determine accurate dimensions of core components of transformer of desired power rating and desired look. This design aspect minimizes waste of core material in fabrication of core components and help in proper lamination of components such as E & I of the transformer.

Keywords: Autotransformer, core area, core components, e.m.f equation, power rating, window area.

References:

1. Engineer Experiences (2014): Calculations for Design Parameters of Transformer| Engineer Experiences. Retrieved from <http://engineer-experiences.com/design-calculations.html>
2. Electronics Hub (2015): Voltage Stabilizer Working and its Importance. Retrieved from <https://www.electronicshub.org/voltage-stabilizer-working-and-its-importance/>
3. Electronics Hub (2019): What is autotransformer ? The complete information Guide. Retrieved from <https://www.electronicshub.org>
4. Electrical Technology (2016): What is Voltage Stabilizer & How it Works. Retrieved from <https://www.electricaltechnology.org/2016/11/what-is-voltage-stabilizer-how-it-works.html>
5. Hughes, Edward.(2016): Electrical & Electronic Technology, Edinburgh, UK: Pearson Education Limited.
6. Sawhney, A.K. (2006): *A Course in Electrical Machine Design*. New-Delhi, India. Dhanapat Rai & Co.
7. Theraja, B.L., & Theraja, A.K. (2002): *A Text Book of Electrical Technology, Volume-I*. New-Delhi, India: S. Chand & Company Limited.
8. Vladimir, Lebedev. (2007): Transformer Basics. 2007. Electrical Insulation Conference and Electrical Manufacturing Expo. IEEE, 2007.

147.	Authors:	Shivank A Tyagi, Neha Bhadauria	
	Paper Title:	Methods of Hardfacing Aluminum Alloys	
	<p>Abstract: Aluminum and its alloys, due to poor wear resistance and hardness, are often avoided from being used in applications demanding good surface properties and involving dynamic loading conditions. This puts up a need of a method for improving such properties of Aluminum alloys, one such method is hardfacing. Several methods have been developed for performing hardfacing of Aluminium alloys like surfacing using welding methods, friction surfacing, laser cladding etc. The current paper discusses the works done by various researchers on hardfacing of Aluminum alloys using different techniques.</p>		832-837
	<p>Keywords: Hardfacing, Aluminum alloys, hardness, wear resistance.</p>		
	<p>References:</p>		
	<ol style="list-style-type: none"> 1. B. Gerard, —Fundamentals of hardfacing by arc welding , Welding alloys group, pp. 4-17. 2. M. Varenberg, —Towards a unified classification of wear , Friction, vol. 1(4), pp. 333–340, 2013. 3. Koji Kato, —Micro-mechanisms of wear - wear modes , Wear, vol. 153, 1992, pp. 277-295. 4. D. A. Rigney, —Sliding wear of metals , Ann. Rev. Mater. Sci. vol. 18, pp. 141-163, 1988. 5. N. Bhadauria, S Pandey, P.M. Pandey, —Wear and Enhancement of wear resistance - A review , Mat. Today: Proc. Feb 2020. 6. M. Kok —Production and mechanical properties of Al₂O₃ particle-reinforced 2024 Aluminium alloy composites . J. of Mat. Proc. Tech. vol. 161, pp. 381–387, July 2005. 7. P. Vilaça, J. Gandra and C. Vidal, —Linear Friction Based Processing Technologies for Aluminum Alloys: Surfacing, Stir Welding and Stir Channeling , Aluminium Alloys - New Trends in Fabr. and App. 8. J. Gandra, H. Krohn, R.M. Miranda, P. Vilac, L. Quintino et.al, —Friction surfacing—A review , J. of Mat. Proc. Tech. vol. 214, 2014, pp.1062-1093. 9. V. Shibe, V. Chawla, —An overview of research work in hardfacing , Mechanica Confab, Vol. 2, No. 3, pp. 105-110, April-May 2013. 10. B. Digambar, D. Choudhary, —A Review Paper On Hardfacing Processes, Materials, Objectives and Applications , IJSR, vol. 3(6), pp. 2400-2402, June 2014. 11. G.R.C. pradeep, A. ramesh, B. durga prasad —A review paper on hardfacing processes and materials . IJEST Vol. 2(11), pp. 6507-6510, 2010. 12. A. Gualco, H.G. Svoboda, E.S. Surian and L.A. de Vedia. —Effect of welding procedure on wear behaviour of a modified martensitic tool steel hardfacing deposit , Mat. & Des., Elsevier, Article in Press, Corr. Proof. Mat. & Des., vol. 31, pp. 4165–4173, 2010. 13. S. Selvi, S.P. Sankaran, R. Srivatsavan, —Comparative study of hardfacing of valve seat ring using MMAW process , j. of Mat. Proc. Tech. vol. 207, 2008, pp. 356–362. 14. Y. Bayhan, —Reduction of wear via hardfacing of chisel ploughshare , Tribology International, vol. 39, 2006, pp. 570–574. 15. Dong-Gyu Ahn, —Hardfacing Technologies for Improvement of Wear Characteristics of Hot Working Tools: A Review , Int. j. of precision engg. and manuf. vol. 14, no. 7, pp. 1271-1283. 16. S. Yoshie E. Hiraishi —Hardfacing of Aluminium products using TIG arc welding methods . Welding Int. vol. 9 (2), pp. 94-99, 1995. 		

17. R. Dimitrova , M. Kandeveva , V. Kamburov, —Mechanical and Tribological Characteristics of TIG Hardfaced Dispersive Layer by Reinforced with Particles Extruded Aluminuml, Tribology in Industry, Vol. 39, No. 1, pp. 9-19, 2017.
18. S.A. Tyagi, N Bhadauria, P Vashishtha, S Mishra, —Improving surface hardness of aluminum 6063 alloy using hardfacingl, Mat. Today: Proc. (Article in press)
19. G.M Reddy, K.S Rao and T. Mohandas, —Friction surfacing: novel technique for metal matrix composite coating on Aluminium–silicon alloyl, Surface Engg. Vol. 25, 2009, pp. 25-30.
20. A.S Zarghani, S.F.K Bozorg, A.Z Hanzaki, —Wear assessment of Al/Al₂O₃ nano-composite surface layer produced using friction stir processingl, Wear, vol. 270, 2011, pp. 403–412.
21. G.B. Joseph, Jeya Jeevahan, Saikiran, G.Mageshwaran —Improving Surface Hardness of the Aluminum Plate by Adding Alumina Powder by Friction Stir Processl. International Journal of ChemTech Research Vol.9, No.08, pp 587-593, 2016.
22. H.C. Man, S. Zhang, T.M. Yue, F.T. Cheng, —Laser surface alloying of NiCrSiB on Al6061 Aluminium alloyl, Sur. and Coatings Tech. vol. 148, 2001, pp. 136–142.
23. L. Dubourga, D. Ursescua, F. Hlawka, A. Cornetm, —Laser cladding of MMC coatings on Aluminium substrate: influence of composition and microstructure on mechanical propertiesl, Wear vol. 258, 2005, pp. 1745–1754.
24. S.L. Pityana, —Hardfacing of Aluminium alloy by means of metal matrix composites produced by laser surface alloyingl, 5th Int. WLT-Conf. on Laser in Manuf. Munich, pp. 439-443, June 2009.
25. S. Nath, S. Pityana, J.D Majumdar, —Laser surface alloying of Aluminium with WC+Co+NiCr for improved wear resistancel, Sur. & Coatings Tech. vol. 206, 2012, pp. 3333–3341.
26. I. Apachitei, J. Duszczyk —Autocatalytic nickel coatings on Aluminium with improved abrasive wear resistancel. Sur. and Coatings Tech. vol. 132, pp. 89-98, April 2000.
27. C.Bing-quan, C. Cang-xiu, P. Jun-bo, —A High-Fe Aluminum Matrix Welding Filler Metal for Hardfacing Aluminum-Silicon Alloysl, J. of Wuhan Univ. of Tech. - Mater. Sci. Ed. vol. 18 No. 1, pp. 25-28, Mar 2003.
28. Y. Sun, —Tribological rutile-TiO₂ coating on Aluminium alloyl, Applied Sur. Sci. vol. 233, 2004, pp. 328–335.
29. J.A. Picas, A. Forn, R. Rilla, E. Martin, —HVOF thermal sprayed coatings on Aluminium alloys and Aluminium matrix compositesl, Surface & Coatings Technology, vol. 200, pp. 1178– 1181, April 2005.
30. U. Dilthey, S. Kondapalli, B. Balashov and F. Riiede —Improving wear resistance of Aluminium alloys by developing FTC and TiC based composite coatings using plasma powder arc welding processl. Sur. Engg. Vol. 24, pp. 75-80, 2008.

148

Authors:

Agostinho da Silva, Andreia Dionísio, Isabel Almeida

Paper Title:

Enabling Cyber-Physical Systems for Industry 4.0 operations: A Service Science Perspective

Abstract: Based on the Internet of Things (IoT) and Smart Technologies, manufacturing industries are witnessing the fourth Industrial Revolution, the Industry 4.0 (I4.0), and digital transformation is a keystone in this change. Cyber-Physical Systems (CPS) are strategic in thoroughly digitalizing companies, and I4.0 operations depend on CPS efficiency. Digital plants are held by digital technologies that provide excellent tools for improving product security and supply chain security but requires structured information management to maintain the CPS in its highest level of efficiency. These systems are overly complex and hard to handle when several CPS need to be combined as in a large factory, where several machines must work together to achieve a common goal. This research addresses these issues, and we propose an information management framework of industrial CPS that, towards the industrial efficiency, affords an increase in value for all stakeholders. The framework structures the information through the introduction of two innovative value co-creation concepts: (i) Fingerprint (FP-I4.0), a virtual vehicle that can carry two types of structured information and (ii) Cockpit4.0, an interaction entity between the various service systems, applied from cradle-to-cradle. Validated through the Service Science Theory, we conclude that the proposed empirical framework may boost up CPS efficiency and, from it, I4.0 operations will be more effective.

838-846

Keywords: Industry 4.0, Cyber-Physical Systems, Smart Objects, Service Science, Service System.

References:

1. J. Vilas-Boas, V. Mirmoori, A. Razy, and A. Silva, “Outlining a New Collaborative Business Model as a Result of the Green Building Information Modelling Impact in the AEC Supply Chain,” PRO-VE 2019. IFIP Adv. Inf. Commun. Technol. vol 568. Publ. Springer, pp. 405–417, 2019.
2. L. Camarinha-matos, R. Fornasiero, and Afsarmanesh Hamideh, “Collaborative Networks as a Core Enabler of Industry 4.0,” vol. 506, no. September, 2017.
3. Y. Yin, K. E. Stecke, and D. Li, “The evolution of production systems from Industry 2.0 through Industry 4.0,” Int. J. Prod. Res., vol. 56, no. 1–2, pp. 848–861, 2017.
4. M. Ertz, “Sustainability in the collaborative economy : A bibliometric analysis reveals emerging interest,” vol. 196, 2018.
5. R. Breillat, “Industrial Artificial Intelligence, Internet of Things Smart Devices, and Big Data-driven Decision-Making in Digital-Twin-based Cyber-Physical Production Systems,” Econ. Manag. Financ. Mark., vol. 15, no. 1, p. 15120204, 2020.
6. S. Roth, P. Schwede, V. Valentinov, and P. Miguel, “Harnessing big data for a multifunctional theory of the firm,” Eur. Manag. J., no. xxxx, 2019.
7. F. Yang, C. Wu, and H. Lin, “Design and Implementation of CPS-Based Automated Management Platform,” 2018 IEEE Int. Conf. Syst. Man, Cybern., pp. 2293–2298, 2018.
8. M. Bartelt and B. Kuhlenk, “Automated production of individualized products for teaching I4.0 concepts,” 10th Conf. Learn. Factories, CLF2020, 2020.
9. J. Spohrer and S. K. Kwan, “Service science, management, engineering, and design (SSMED): an emerging discipline -- outline and references,” San Jose State Univ. - Manag. Inf. Syst. Dep., vol. 1, no. 3, pp. 1–31, 2009.
10. J. Smit, S. Kreutzer, C. Moeller, and M. Carlberg, Industry 4.0 - Study for the ITRE Committee. 2016.
11. L. V Legashev, T. V Letuta, P. N. Polezhaev, A. E. Shukhman, Y. A. Ushakov, L. V Legashev, T. V Letuta, P. N. Polezhaev, A. E. Shukhman, and Y. A. Ushakov, “Monitoring , Certification and Verification of Autonomous Robots and Intelligent Systems: Technical and Legal Approaches,” Procedia Comput. Sci., vol. 150, pp. 544–551, 2019.
12. G. Leal, W. Guédria, and H. Panetto, “An ontology for interoperability assessment: A systemic approach,” J. Ind. Inf. Integr., no. May, 2019.
13. I. Avazpour, J. Grundy, and L. Zhu, “Engineering complex data integration, harmonization and visualization systems,” J. Ind. Inf. Integr., vol. 16, no. December 2018, p. 100103, 2019.
14. P. Kropotkin, Mutual Aid, a Factor of Evolution (PDF version by Stephen DeMeulenaere 1972), vol. 67. 1902.
15. V. K. Sehgal, A. Patrick, and L. Rajpoot, “A comparative study of cyber physical cloud, cloud of sensors and internet of things: Their ideology, similarities and differences,” IEEE Int. Adv. Comput. Conf., vol. 978, no. 1, pp. 708–716, 2014.

16. H. Lasi, P. Fettke, H. G. Kemper, T. Feld, and M. Hoffmann, "Industry 4.0," *Bus. Inf. Syst. Eng.*, vol. 6, no. 4, pp. 239–242, 2014.
17. D. Ivanov, A. Dolgui, B. Sokolov, F. Werner, and M. Ivanova, "A dynamic model and an algorithm for short-term supply chain scheduling in the smart factory industry 4.0," *Int. J. Prod. Res.*, vol. 54, no. 2, pp. 386–402, 2016.
18. R. Drath and A. Horch, "Industrie 4.0: Hit or hype?," *IEEE Ind. Electron. Mag.*, vol. 8, no. 2, pp. 56–58, 2014.
19. N. Bicocchi, G. Cabri, F. Mandreoli, and M. Mecella, "Dynamic digital factories for agile supply chains: An architectural approach," *J. Ind. Inf. Integr.*, vol. 15, no. December 2018, pp. 111–121, 2019.
20. A. Silva, A. Dionísio, and L. Coelho, "Results in Engineering Flexible-lean processes optimization : A case study in stone sector," *Results Eng.*, vol. 6, no. March, p. 100129, 2020.
21. A. Caggiano, F. Caiazzo, and R. Teti, "Digital Factory Approach for Flexible and Efficient Manufacturing Systems in the Aerospace Industry," *Procedia CIRP*, vol. 37, pp. 122–127, 2015.
22. S. Li, L. Da Xu, and S. Zhao, "5G Internet of Things: A survey," *J. Ind. Inf. Integr.*, vol. 10, pp. 1–9, 2018.
23. T. Stock and G. Seliger, "Opportunities of Sustainable Manufacturing in Industry 4.0," *Procedia CIRP*, vol. 40, no. Icc, pp. 536–541, 2016.
24. S. L. Vargo and R. F. Lusch, "Evolving to a New Dominant Logic for Marketing," *J. Mark.*, vol. 68, no. 1, pp. 1–17, 2004.
25. V. Kaartemo, M. Akaka, and S. Vargo, "A Service-Ecosystem Perspective on Value Creation: Implications for International Business," *Value Creat. Int. Bus.*, pp. 131–149, 2017.
26. P. Maglio, C. Kieliszewski, J. Spohrer, L. Kelly, L. Patricio, and Y. Sawatani, *Handbook of Service Science, Volume II*, vol. II. 2018.
27. M. Stoshikj, N. Kryvinska, and C. Strauss, "Service Systems and Service Innovation: Two Pillars of Service Science," *Procedia Comput. Sci.*, vol. 83, no. Ant, pp. 212–220, 2016.
28. R. Lusch, S. Vargo, and A. Gustafsson, "Fostering a trans-disciplinary perspectives of service ecosystems," *J. Bus. Res.*, vol. 69, no. 8, pp. 2957–2963, 2016.
29. J. Pöppel, J. Finsterwalder, and R. Laycock, "Developing a firm-based service experience blueprinting technique," *J. Bus. Res.*, no. xxxx, pp. 0–1, 2017.
30. R. Lusch and S. Vargo, "Service-dominant logic: reactions, reflections and refinements," *Mark. Theory Vol.*, vol. 6, no. 3, pp. 281–288, 2006.
31. P. Maglio, S. Vargo, N. Caswell, and J. Spohrer, "The service system is the basic abstraction of service science," *Inf. Syst. E-bus. Manag.*, vol. 7, no. 4 SPEC. ISS., pp. 395–406, 2009.
32. H. Demirkan and J. Spohrer, "T-Shaped Innovators: Identifying the Right Talent to Support Service Innovation," *Res. Manag.*, vol. 1, no. 6, pp. 12–15, 2015.
33. D. Kindström, C. Kowalkowski, and S. Erik, "Enabling service innovation – A dynamic capabilities approach," *J. Bus. Res.*, vol. 66, no. 8, pp. 1063–1073, 2013.
34. P. Maglio and J. Spohrer, "Fundamentals of service science," *J. Acad. Mark. Sci.*, vol. 36, no. 1, pp. 18–20, 2008.
35. J. Spohrer and P. Maglio, "The Emergence of Service Science: Toward Systematic Service Innovations to Accelerate Co-Creation of Value," *Prod. Oper. Manag.*, vol. 17, no. 3, pp. 238–246, 2008.
36. C. Merschbrock and B. E. Munkvold, "Effective digital collaboration in the construction industry - A case study of BIM deployment in a hospital construction project," *Comput. Ind.*, vol. 73, pp. 1–7, 2015.
37. K. Storbacka, R. J. Brodie, T. Böhmann, P. Maglio, and S. Nenonen, "Actor engagement as a microfoundation for value co-creation," *J. Bus. Res.*, vol. 69, no. 8, pp. 3008–3017, 2016.
38. B. Matthies and D'Amato, "An ecosystem service-dominant logic? - Integrating the ecosystem service approach and the service-dominant logic," *J. Clean. Prod.*, vol. 124, pp. 51–64, 2016.
39. S. Vargo and M. Akaka, "Service-Dominant Logic as a Foundation for Service Science: Clarifications," *Inst. Oper. Res. Manag. Sci.*, vol. 1, no. 1, pp. 32–41, 2009.
40. S. Vargo and R. Lusch, "Institutions and Axioms: An Extension and Update of Service-Dominant Logic," *J. Acad. Mark. Sci.*, vol. 44, no. 1, pp. 5–23, 2016.
41. A. Silva and I. Almeida, "Towards INDUSTRY 4.0 | a case STUDY in ornamental stone sector," *Resour. Policy*, vol. 67, no. March, p. 101672, 2020.
42. H. Demirkan and J. C. Spohrer, "Emerging service orientations and transformations (SOT)," *Inf. Syst. Front.*, vol. 18, no. 3, pp. 407–411, 2016.
43. T. Meynhardt, D. Chandler, and P. Strathoff, "Systemic principles of value co-creation: Synergetics of value and service ecosystems," *J. Bus. Res.*, vol. 69, no. 8, pp. 2981–2989, 2016.
44. S. Wang, J. Wan, D. Zhang, D. Li, and C. Zhang, "Towards smart factory for Industry 4.0: A self-organized multi-agent system with big data based feedback and coordination," *Comput. Networks* 101, vol. 101, pp. 158–168, 2015.
45. J. Spohrer, P. Maglio, J. Bailey, and D. Gruglh, "Steps toward a science of service systems," *IBM Res. Almaden Res. Cent.*, vol. 40, no. 1, pp. 71–77, 2007.

149.	Authors:	G. Ramana Reddy, P. Chitra, K. Prakash	
	Paper Title:	Impedance Cytometry for Detection of Particle and Counting using Low Phase Noise DDFS – LUT	
	<p>Abstract: The biotechnology is widely growing with many technologies, still we see a large gap in real-time implementation of complete blood counting. To increase the resolution and accuracy of the measurements advanced communication DDFS can be used. The elements in Direct Digital Frequency Synthesizers (DDFS) involved are: phase accumulator, a phase to amplitude converter which also called look up table (LUT), a digital to analog converter along with active filter. Direct digital frequency synthesis is a method for generating complex high - frequency waveforms for specific applications. This DDFS generates frequency resolution which makes it ideal components use in radar system, software defined radio, modern wireless communicating system, advanced satellite navigation purpose. Use cases for high frequency we get interrupt with spurious noise, larger ROM size, and high power consumption of DDFS signal. In this paper we are proposing the use of signal generated from DDFS to impedance cytometry in which the number of particles gets detected by getting the output frequency different from the input frequency. Due to use of small frequency range of signal spurious noise, power consumption and ROM size will be less with effective performance.</p>		847-850
	<p>Keywords: Direct Digital Frequency Synthesizers (DDFS), Digital to Analog Convertor (DAC), Read Only Memory (ROM), Flow Cytometry, Cell analysis and Signal Conditioning.</p>		
	<p>References:</p>		

	<ol style="list-style-type: none"> 1. S. Khilar, K. Parmar, S. Saumi, and K. Dasgupta, "Design and analysis of direct digital frequency synthesizer," 2008 First International Conference on Emerging Trends in Engineering and Technology, pp. 1302-1306, 2008. 2. B. C. Rutherford and C. S. Lewis, "Practical direct digital synthesis for realizing high frequency signals from low frequency domains," in 2018 IEEE Radar Conference (RadarConf18), 2018: IEEE, pp. 0670-0675. 3. X. Guo, D. Wu, L. Zhou, H. Liu, J. Wu, and X. Liu, "A 2-GHz 32-bit ROM-based direct-digital frequency synthesizer in 0.13 μm CMOS," Analog Integrated Circuits and Signal Processing, vol. 94, no. 1, pp. 127-138, 2018. 4. Y. Yang et al., "A 2-GHz direct digital frequency synthesizer based on LUT and rotation," in 2018 IEEE International Symposium on Circuits and Systems (ISCAS), 2018: IEEE, pp. 1-5. 5. T.-Y. Tsai, H.-Y. Shih, and C.-C. Wangt, "A pipeline ROM-less DDFS using equal-division interpolation," in 2017 International SoC Design Conference (ISOCC), 2017: IEEE, pp. 19-20. 6. V. Romashov, L. Romashova, K. Khramov, K. Yakimenko, and A. Doktorov, "Wide-band hybrid frequency synthesizer with improved noise performance," in 2018 Moscow Workshop on Electronic and Networking Technologies (MWENT), 2018: IEEE, pp. 1-4. 7. Z. Hu and G. Sun, "Design of a K-band fast hopping frequency synthesizer," in 2017 2nd IEEE International Conference on Integrated Circuits and Microsystems (ICICM), 2017: IEEE, pp. 137-140. 8. A. Tang et al., "DDFS and $\Sigma\Delta$ approaches for fractional frequency synthesis in terahertz instruments," IEEE Transactions on Terahertz Science and Technology, vol. 8, no. 4, pp. 410-417, 2018. 9. W. R. Hogg and W. H. Coulter, "Apparatus and method for measuring a dividing particle size of a particulate system," ed: Google Patents, 1971. 10. P. Walker, K. Woodyer, and J. Hutka, "Particle-size measurements by Coulter Counter of very small deposits and low suspended sediment concentrations in streams," Journal of Sedimentary Research, vol. 44, no. 3, pp. 673-679, 1974. 					
	<table border="1"> <tr> <td>Authors:</td> <td>K. Bhavani, Suneetha Emmela, K. Gowthami, M. Sandhya Rani, B. Deepika</td> </tr> <tr> <td>Paper Title:</td> <td>Accident Detection and Elegant Rescue System using Android-Real Time Location Tracking</td> </tr> </table>	Authors:	K. Bhavani, Suneetha Emmela, K. Gowthami, M. Sandhya Rani, B. Deepika	Paper Title:	Accident Detection and Elegant Rescue System using Android-Real Time Location Tracking	
Authors:	K. Bhavani, Suneetha Emmela, K. Gowthami, M. Sandhya Rani, B. Deepika					
Paper Title:	Accident Detection and Elegant Rescue System using Android-Real Time Location Tracking					
150.	<p>Abstract: The measure of accidents happening in India are developing a tiny bit at a time. Crisis reaction time is inconceivably major, when it fuses occasions, for example, vehicle episodes. Most of the human lives are being lost thinking about road troubles. Quantifiable Analysis shows that in the event that we rot only 1-minute in mishap reaction time that can develop odds of sparing a person's life up to 6percent. Among all the occurrence cases, some can be constrained by taking certain preventive measures and some can be spared by giving a concise data to the misfortune's family. This work region work helps the misfortunes by giving some concise ramifications to their particular relatives furthermore perceives the guideline driver of the mishap. That is, either the disaster is intoxicated or fire setback has occurred, and so on. In like manner the proposed framework gives the constant zone following.</p> <p>Keywords: Emergency victim, Emergency responder, Sensors, Tracking real-time location.</p> <p>References:</p> <ol style="list-style-type: none"> 1. "Smart home system using android application", by RA Ramlee, MA Othman, MH Leong, MM Ismail, SSS Ranjit in the International Conference of Information and communication technology (ICOICT). 2. "Findings on real-time location tracking by implementing different mechanisms", by A. Sai Hanuman, Kanegonda Ravi Chythanya, International Journal of Innovative Technology and Exploring Engineering (IJITEE). 3. "Real-time Vehicle Tracking System", by S. Ahmed et al, MS thesis (Dept. Elect. And Electron Eng.), BRAC Univ., Dhaka, Bangladesh, 2015. 4. "Introduction to GPS: The Global positioning system", by Boston, A. El-Rabbany (USA, Artech House) in 2002. 5. "Road Crash Statistics". Asirt.org. (n.d.). 6. "Accident detection and Alert system", by T. Kalyani, S. Monika, B. Naresh, Mahendra Vucha, International Journal of Innovative Technology and Exploring Engineering (IJITEE). 7. "Automatic Accident Detection and ambulance rescue with intelligent traffic light system", by Mr. S. Iyyappan, Mr. V. Nandagopal IAREEIE (International journal of Advanced research in Electrical, Electronics and Instrumentation Engineering). 8. "Accident detection and smart rescue system using Android Smartphone with real-time location tracking", by Arsalan Khan, Farzan Bibi, Muhammad Dilshad, Salman Ahmed, Zia Ullah, Haider Ali, in International Journal of Advanced Computer Science and Applications (IJACSA). 9. "Vehicle Monitoring and Tracking System using GPS and GSM Technologies", by S. Thanveer, Guntha Vamshi Krishna, Syed Mohisin Akram, B. Hari Kumar, Syeda Fathima Tehseen. 10. "Detection of fire accidents using GSM and GPS technologies", by N. Bharath, G. Harika, A. Sai Susmitha, L. N. Adithya teja, K.V. V. Kumar in ISER (International Journal of Scientific& Engineering Research). 11. "Wireless System for Vehicle Accident Detection and Reporting using Accelerometer and GPS", by Shailesh Bhavthankar, H. G. Sayyed in ISER (International Journal of Science and Engineering Research). 12. "Real-time Alcohol Detection and Accident prevention System for Four Wheelers", by Kowsalya Devi, Joys Shanthini B, Aparna Murali, Arthi M, in IJETA (International Journal of Engineering Trends and Applications). 13. "Automatic Vehicle Accident Detection and Messaging System Using GPS and GSM Module", by Jayati Routh, Arshiya das, Piyashi Kundu, Madhubarsha Thakur, (International Journal of Engineering Trends and Technology). 	851-854				
151.	<table border="1"> <tr> <td>Authors:</td> <td>Sampa Chau Pattnaik, Mitrabinda Ray</td> </tr> <tr> <td>Paper Title:</td> <td>Software Reliability Prediction and Estimation</td> </tr> </table> <p>Abstract: The rapid growth of the software products tends to increase the software application complexity. The complexity affects the software quality which is achieved by means of software reliability. It is desirable to perform reliability analysis at the early phase of Software Development Life Cycle. The paper conducts a thorough analysis on Bayesian model and Markov model which are common for both reliability prediction and estimation. We evaluate the state based model and path based model for reliability assessment and results obtained in both are same.</p>	Authors:	Sampa Chau Pattnaik, Mitrabinda Ray	Paper Title:	Software Reliability Prediction and Estimation	855-869
Authors:	Sampa Chau Pattnaik, Mitrabinda Ray					
Paper Title:	Software Reliability Prediction and Estimation					

Keywords: Software reliability, Reliability Metrics, Markov Model, Reliability Models, Reliability Prediction, Reliability Estimation

References:

1. Ahmed Ali Baig, Risza Ruzli, and Azizul B. Buang(2013),—Reliability Analysis Using Fault Tree Analysis: A Review —, International Journal of Chemical Engineering and Applications, Vol. 4, No. 3, June 2013
2. A.L.Goel and Kazu Okumoto(1979) , —A Markovian model for reliability and other performance measures of software systeml, in Proc. Nat. Computer Conf., New York .vol.48,1979, pp.769-774.
3. L. Goel,(1983), —A guidebook for software reliability assessmentl,Rep. RADCTR-83-176, Aug. 1983.
4. Amrit L. Goel(1985),l Software Reliability Models: Assumptions, Limitations and Applicability —,Member IEEE, IEEE Transactions on Software Engineering , Volume: SE-11, Issue: 12, Dec, 1411 – 1423
5. AP Singh, Pradeep Tomar (2013), —A new model for Reliability Estimation of Component-Based Softwarel, Published in: Advance Computing Conference (IACC), 2013 IEEE 3rd International, Date of Conference: 22-23 Feb. 2013, Date Added to IEEE Xplore: 13 May, 1431-1436
6. Wesslen, P. Runeson, and B. Regnell(2000), —Assessing the sensitivity to usage profile changes in test planning.l in Proc. 11th Int'l Symp. SoftwareReliability Engineering, 2000, pp. 317–326
7. B.Littlewood and J.L. Verrall (1973),lA Bayesian reliability growth model for computer software,l APPI. Statist., vol.22, pp.332-346
8. B.Littlewood (1980),lTheories of software reliability: How good are they and how can they be improved?l IEEE Trans. Software Engg., vol.SE-6,pp.489-500
9. Littlewood(1979), —Software reliability model for modular program structure, IEEE Trans. Reliability 28 (3) (1979), pp-241–246.
10. Chu, T.L., Yue, M., Martinez-Guridi, M., and Lehner(2010), J.lReview of Quantitative Software Reliability Methodsl. United States: N. p., 2010. Web. doi:10.2172/1013511
11. Stringfellow and A. Amschler Andrews(2002) , —An Empirical Method for Selecting Software Reliability Growth Modelsl, Empirical Software Engineering, December Volume 7, Issue-4, pp 319–343
12. C.V. Ramamurthy and F.B. Bastani(1982), —Software reliability: status and perspectives,l IEEE Trans. On Software Engineering, vol. Se-8, , pp. 359-371,july 1982.
13. Dalila Amara, Latifa Ben Arfa Rabai (2017) ,—Towards a New Framework of Software Reliability Measurement Based on Software Metrics —, The 8th International Conference on Ambient Systems, Networks and Technologies (ANT 2017), Science Direct Available online at www.sciencedirect.com Procedia Computer Science 109C,pp: 725–730 , Elsevier
14. Dong Tang, Myron Hecht, Jeffrey Miller and JadyHandal(1998), —MEADEP — A Dependability Evaluation Tool for Engineersl, IEEE Transactions on Reliability, vol-47,issue 4, Dec 1998
15. D.Swamydoss and Dr. Kadhar Nawaz(2011), —Enhanced Version of Growth Model in Web Based Software Reliability Engineeringl, Journal of Global Research in Computer Science ,Volume 2, No. 12, December,44-46
16. E. Nelson(1978), "Estimating software reliability from test data," Microelectron. Rel., vol. 17, pp. 67-74
17. G.J. Pai(2002). —A survey of software reliability modelsl. Technical report, DCE, University of Virginia, 2002.
18. H.D. Mills(1972),lOn the statistical validation of computer programs,l IBM Federal Syst. Div., Gaithersburg, MD, Rep.72-6015,1972.
19. Ivo Krka,Leslie Cheung, George Edwards, Leana Golubchik, and Nenad Medvidovic ,(2008)—Architecture-Based Software Reliability Estimation:Problem Space, Challenges, and Strategiel, In: DSN 2008 Companion: Proceedings of DSN 2008 Workshop on Architecting Dependable Systems
20. J.C. Laprie(1984), —Dependability evaluation of software systems in operationl, IEEE Trans. Software Eng. 10 (6) ,pp: 701–714.
21. J.D. Musa (1971),lA theory of software reliability and its application —,IEEE Tans. Software Eng.,vol. SE-1,pp.312-327,1971
22. J.D. Musa and K. Okumoto(1983),lA logarithmic Poisson execution time model for software reliability measurement.lin Proc. 7th int.Conf. Software Eng., Orlando , FL. Mar.1983,pp.230-237
23. J.D.Musa , ; W.W. Everett (1990), Software-reliability engineering: technology for the 1990s, IEEE Software (Volume: 7 , Issue: 6 , Nov. 1990),Page(s): 36 - 43
24. Jiantao Pan (1999),lSoftware Reliabilityl, Carnegie Mellon University, 18-849b Dependable Embedded Systems, Spring 1999
25. Kai-Yuan Cai (2000), —Towards a conceptual framework of software run reliability modeling —,Information Sciences 126 (2000) ,137-163
26. Katerina GoSeva- Popstojanova , Aditya P. Mathur, Kishor S. Trivedi,(2002)lComparison of Architecture-Based Software Reliability Modelsl , Proceedings 12th International Symposium on Software Reliability Engineering, IEEE Xplore: 07 August ,22-31
27. KaramaKanoun, Mohamed Ka`aniche, Jean-Claude Laprie, Sylvain Metge(2002),lSoRel: A tool for reliability growth analysis and prediction from statistical failure data, FTCS-23 The Twenty-Third International Symposium on Fault-Tolerant Computing,Date of Conference: 22-24 June 1993,Date Added to IEEE Xplore: 06 August 2002,pp-654-659
28. L. Peterson, (1997),l"Petri Nets," ACM Computing Surveys, Vol 9 No.3, pp. 223- 252
29. Lyu, M. and A. Nikora (1992a, July),. —CASRE – a computer-aided software reliability estimation tool, In Proc.of the Fifth Internation al Workshop on Computer-Aided Software Engineering, Montreal, Que., pp. 264–275. IEEE Computer Society
30. 30.M. H. Chen, J. R. Horgan, A. P. Mathur, V. J. Rego(1992),lA time/structure based model for estimating software reliability, Dec. 1992.
31. Mihir Sanghavi, Sashank Tadepalli, Timothy J. Boyle, Jr., Matthew Downey, and Marvin K. Nakayama (2017),—Efficient Algorithms for Analyzing Cascading Failures in a Markovian Dependability Modell,, IEEE Transaction on Reliability, vol. 66, no. 2, June 2017
32. Michael Rung-Tsong Lyu (2002) , —Software Reliability Theory —, The Chinese University of Hong Kong, Encyclopedia of Software Engineering Copyright © 2002 by John Wiley & Sons, Inc. All rights reserved. DOI: 10.1002/0471028959.sof329 Article Online Posting Date: January 15, 2002
33. M. R. Lyu, (2007, May). Software reliability engineering: A roadmap. In Future of Software Engineering (FOSE'07) (pp. 153-170). IEEE.
34. M.Lipow(1972), lEstimation of software package residual errors.l TRW, Redonodo Beach,CA, Software Series Rep. TRW-ss-72-09.1972
35. Mei-Hwa Chen, Michael R. Lyu, and W. Eric Wong (2001),—Effect of Code Coverage on Software Reliability Measurement —,IEEE Transactions on Reliability, vol.50,no.2.,June 2001, pp:165-170
36. Michael R. Lyu(1995), —Handbook of Software Reliability Engineeringl, McGraw-Hill publishing,1995,ISBN0-07-039400-8.http://portal.research.bell-labs.com/orgs/ssr/book/reliability/introduction.html
37. M.L.Shooman (1972),lProbabilistic models for software reliability prediction,l in Statistical Computer Performance Evaluation, W.Freiberger,Ed., New York : Academic,1972.pp.485-502
38. M. Shooman(1976), —Structural models for software reliability predictionl, in: Proceedings of the Second International Conference on Software Engineering, 1976, pp. 268–280.
39. M. Xie, C. Wohlin(1995), —An additive reliability model for the analysis of modular software failure data, in: Proceedings of the Sixth International Symposium on Software Reliability Engineering (ISSRE'95), 1995, pp. 188–194

40. Nancy E. Rallis and Zachary F. Lansdowne (2001), —Reliability Estimation for a Software System with Sequential Independent Reviewsl, IEEE Transactions on Software Engineering, vol. 27, no. 12, pp-1057-1061, DECEMBER 2001
41. N. Langberg and N.D. Singpurwalla (1985), Unification of some software reliability models via the Bayesian approach, SIAM J. Sci. and Stat. Comput., 6(3), 781–790.
42. Norman E Fenton and Martin Neil (1998), —Software Metrics: Successes, Failures and New Directionsl, For Special Issue of Journal of Systems and Software 20 November 1998
43. P. Kubat (1989), Assessing reliability of modular software, Oper. Res. Lett. 8 , pp: 35–41
44. R.C. Cheung (1980), —A user-oriented software reliability model, IEEE Trans. Software Eng. 6 (2) , pp-118–125.
45. R.S Pressman, Associates (2016), —Software Engineering Resourcesl .
46. S.C. Pattnaik, M. Ray (2019) , Architecture Based Reliability Analysisl, ICICC -2019 ICICC-2019: International Conference on Intelligent and Cloud Computing, Institute of Technical Education and Research (ITER), Siksha 'O' Anusandhan Deemed to be University, Bhubaneswar, India, December 16-17, 2019. (Accepted)
47. Sherif Yacoub, Bojan Cukic, and Hany H. Ammar, Member, IEEE (2004), —A Scenario-Based Reliability Analysis Approach for Component-Based Software, IEEE Transactions on Reliability, vol: 53, Issue: 4, Dec. 2004, pp-465- 480
48. S. Krishnamurthy, A.P. Mathur (1997), —On the estimation of reliability of a software system using reliabilities of its componentsl, in: Proceedings of the Eighth International Symposium on Software Reliability Engineering (ISSRE'97), 1997, pp. 146–155.
49. S.L. Basin (1974), —Estimation of software error rate via capture-recapture sampling, Science Applications, Inc., Palo Alto, CA, 1974.
50. Sommerville. I. ansommerville.com/software-engineering-book/Chapter 1
51. Srinivasan Ramani, Swapna S. Gokhale, and Kishor S. Trivedi (1998), —SREPT: Software Reliability Estimation and Prediction Tool, International Conference on Modelling Techniques and Tools for Computer Performance Evaluation Tools: Computer Performance Evaluation, pp 27-36
52. Srinivasan M. Iyer, Marvin K. Nakayama, and Alexandros V. Gerbessiotis (2009), A Markovian Dependability Model with Cascading Failures —, IEEE Transactions on Computers, vol. 58, no. 9, September- 2009
53. S. Gokhale, W.E. Wong, K. Trivedi, J.R. Horgan (1998), —An analytical approach to architecture based software reliability prediction, in: Proceedings of the Third International Computer Performance and Dependability Symposium (IPDS'98), 1998, pp. 13–22.
54. Swapna S. Gokhale (2007), —Architecture-Based Software Reliability Analysis: Overview and Limitationsl, Senior Member, IEEE, IEEE Transactions on Dependable and Secure Computing , vol. 4, no. 1, January-March, 32-40
55. W. Everett (1999), —Software component reliability analysisl, in Proceedings of the Symposium on Application-specific Systems and Software Engineering Technology (ASSET'99), 1999, pp. 204–211
56. William Farr, Oliver Smith (1996), —SMERFS – Statistical Modeling and Estimation of Reliability Functions for Systems, <http://www.slingcode.com/smerfs/drffarr.php>, 1996.
57. Z. Jelinski and P. Moranda (1972), Software reliability researchl, in statistical Computer Performance Evaluation, W. Freiberger, Ed., New York : Academic, 1972, pp.465-484

152.

Authors:

Sudarshan R. Vhatkar, Pradip D. Jadhao

Paper Title:

Determination of Lateral Force on Steel Plate Shear Wall by using American Code

Abstract: For seismic design requirements, the major stress dispersing components for steel plate shear walls (SPSWs) that be resistant against lateral forces are un-hardened plates infilled (webs) that bend for shear then shape the sequence with diagonal tension field actions (TFAs). The tensile load of an infill plate must be resisted through the horizontal boundary elements (HBEs) and the vertical boundary elements (VBEs) surrounding every plates by means with its capacity design point of view. If rigid connections were established for both the HBEs and the VBEs as well as among VBEs even its base (when stated with other SPSW cases), the SPSWs often gain along with moment of resistance from another boundary element with that of its lateral horizontal forces deployed. Appreciating every usefulness by their boundary frame with their overall strength in that model, through their interest as can also occur in any form of optimizing the design of the SPSW, so instead of based for their appearance to this process for the over strength with which this can supply for withstand a defined lateral forces. About the lateral design, many aspects control its reaction to light – frame shear wall: rank the encasing elements, fastener style, fastener position, keep on low tightening system, size as well as the classification with the connected structural boards, existence frame connections, aspect ratio in the wall (height of the wall and length of the wall ratio), with wall attached components. While framing products and fastener forms vary throughout Cold – Formed Steel (CFS) as well as wood – frame shear wall mechanisms, a whole responds for those mechanisms also seem to be relatively equal when they are sufficiently comprehensive to resolve the material centric limit states.

870-874

The steel plate shear wall (SPSW) arrangement seems to be recognized just like most among any simplest efficient ways for resistance of the lateral forces, specifically through seismic activity, the loads are adapted on the model. This comprises along with one steel plate infilled attached through an enclosed system throughout horizontal beams and vertical columns for the movement of lateral forces to the base of the foundation. Steel plate shear walls (SPSWs) column in mid – rise along with high – rise constructions typically needs an outsized compression capability, because it bear either an axial forces with gravitational forces of lateral forces and imposed by the moment of overturning. In order to ensure the effective usage with steel inward the plate infilled, and even will attain goodness as a whole earthquake output on that wall, that formed tension field need to have relatively consistent, requiring suitable anchoring by effective accompanying members of the frame.

The lateral fore on the steel plate shear wall (SPSW) is determined by using American code.

Keywords: Cold – Formed Steel, Horizontal Boundary Element, Steel Plate Shear Wall, and Vertical Boundary Element.

References:

1. A.I.S.C. 341s1 – 05, (2005). “Seismic Provisions for Structural Steel Buildings.” Including Supplement No. 1, American Institute of Steel Construction, Chicago, IL, pp. 1 – 334.

2. A. Sreekumar, A. K. Asraff, and J. Ramanujan, "Finite Element Analysis of Self – Centering Moment Resistant Frames with and without Steel Plate Shear Walls." Procedia Technology, International Conference on Emerging Trends in Engineering, Science and Technology, Science Direct, vol. 24, pp. 161 – 168, 2016.
3. A.S.C.E. 7 – 05, (2005). "Minimum Design Loads for Buildings and Other Structures." American Society of Civil Engineers, Reston, VA, pp. 1 – 419.
4. B. Qu, and M. Bruneau, "Design of Steel Plate Shear Walls Considering Boundary Frame Moment Resisting Action." Journal of Structural Engineering, ASCE, vol. 135 no. 12, pp. 1511 – 1521, 2009.
5. I.S. 800: 2007, "Indian Standard, General Construction in Steel – Code of Practice," Bureau of Indian Standards, 2007.
6. I.S. 801: 1975 (Reaffirmed 1995), "Indian Standard, Code of Practice for Use of Cold – Formed Light Gauge Steel Structural Members in General Building Construction," Bureau of Indian Standards, 1995.
7. I.S. 811: 1987 (Reaffirmed 1995), "Indian Standard, Specification for Cold – Formed Light Gauge Steel Structural Steel Sections," Bureau of Indian Standards, 1995.
8. I.S. 875 (Part 1): 1987 (Reaffirmed 1997), "Indian Standard, Code of Practice for Design Loads (Other than Earthquake) for Buildings and Structures, Part 1: Dead Loads – Unit Weights of Building Materials and Stored Materials," Bureau of Indian Standards, 1997.
9. I.S. 875 (Part 2): 1987 (Reaffirmed 1997), "Indian Standard, Code of Practice for Design Loads (Other than Earthquake) for Buildings and Structures, Part 2: Imposed Loads," Bureau of Indian Standards, 1997.
10. I.S. 875 (Part 3): 2015, "Indian Standard, Design Loads (Other than Earthquake) for Buildings and Structures – Code of Practice, Part 3: Wind Loads," Bureau of Indian Standards, 2015.
11. I.S. 875 (Part 4): 1987 (Reaffirmed 1997), "Indian Standard, Code of Practice for Design Loads (Other than Earthquake) for Buildings and Structures, Part 4: Snow Loads," Bureau of Indian Standards, 1997.
12. I.S. 875 (Part 5): 1987 (Reaffirmed 1997), "Indian Standard, Code of Practice for Design Loads (Other than Earthquake) for Buildings and Structures, Part 5: Special Loads and Combinations," Bureau of Indian Standards, 1997.
13. I.S. 1893 (Part 1): 2016, "Indian Standard, Criteria for Earthquake Resistant Design of Structures, Part 1: General Provisions and Buildings," Bureau of Indian Standards, 2016.
14. I.S. 4326: 2013, "Indian Standard, Earthquake Resistant Design and Construction of Buildings – Code of Practice," Bureau of Indian Standards, 2013.
15. L. He, T. Togo, K. Hayashi, M. Kurata, and M. Nakashima, "Cyclic Behavior of Multirow Slit Shear Walls Made from Low – Yield – Point Steel." Journal of Structural Engineering, ASCE, vol. 142, no. 11, pp. 04016094 – 1 – 9, 2016.
16. M. Nava, and R. Serrette, "Effect of Panel Joints on the Performance of Cold – Formed – Steel Light – Frame Shear Walls." Journal of Structural Engineering, ASCE, vol. 142, no. 2, pp. 06014007 – 1 – 7, 2015.
17. R. Sabelli, and M. Bruneau, "Steel Design: Steel Plate Shear Walls." American Institute of Steel Construction, 2007.
18. S. R. Vhatkar, Dr. P. D. Jadhao, "Steel Plate Shear Wall – A 20th Century Review", International Conference on Recent Trends in Engineering and Sciences (ICRTES) – 2018, Paper code: 732, 2018.
19. S. R. Vhatkar, P. D. Jadhao, "Determination of Lateral Load on Steel Plate Shear Wall by Indian Standard Code", International Journal of Innovative Technology and Exploring Engineering, vol. 8 no. 7C2, pp. 379 – 383, 2019, Retrieval Number: G10820587C219/19@BEIESP.
20. W. Tian, J. Hao, and C. Fan, "Analysis of Thin Steel Plate Shear Walls Using the Three – Strip Model." Journal of Structural Engineering, ASCE, vol. 142, no. 5, pp. 04015169 – 1 – 11, 2016.
21. X. Wang, E. Pantoli, T. C. Hutchinson, J. I. Restrepo, R. L. Wood, M. S. Hoehler, P. Grzesik, and F. H. Sesma, "Seismic Performance of Cold – Formed Steel Wall Systems in a Full – Scale Building." Journal of Structural Engineering, ASCE, vol. 141, no. 10, pp. 04015014 – 1 – 11, 2015.

Authors: Sowmya KB, Sagar T, N R Pavan Santosh

Paper Title: Smart Traffic Controller Implementation using FPGA

Abstract: Every second heart attack patient in India takes 7 hours to reach a hospital, which is almost 14 times more than the ideal time within which a heart patient should be treated that is 30 minutes, government data shows. A two-year data from the ongoing Management of Acute Coronary Event (MACE) Registry of the Indian Council of Medical Research (ICMR) shows at some places it even takes 15 hours. A lot of precious time is still being wasted in traffic. Also some lines in the traffic junction are prone to traffic than the other lines and all the lines are held green for the same time irrespective of the density of traffic. The FPGA (Basys-3) based traffic controller sets the light green of a line if it detects ambulance (using sound sensor) in that particular line. Also if the density (determined using IR sensor) in one of the lines is high that particular line is held green for longer time.

Keywords: Traffic light controller, FPGA, sound sensor, IR sensor

References:

1. W M El-Medany, M R Hussain, "FPGA-Based Advanced Real Traffic Light Controller System Design", IEEE international Workshop on Intelligent Data Acquisition and Advanced Computing System: Technology and Applications 6-8 September 2007, Dortmund, Germany.
2. Parasmani, Shri Gopal Modani, " FPGA-Based Advanced Traffic Light Controller Simulation" , International Journal of Scientific & Engineering Research, Volume 4, Issue 9, September-2013.
3. "FPGA Implementation of an Advanced Traffic Light Controller using Verilog HDL", Dilip, Y. Alekhya, P. Divya Bharathi, Advanced Research in Computer Engineering & Technology; Volume 1, Issue 7, pp: 2278 – 1323, 2012.
4. Z. Yuye and Y. Weisheng, "Research of Traffic Signal Light Intelligent Control System Based On Microcontroller," 2009 First International Workshop on Education Technology and Computer Science.
5. Taehee Han; Chihoh Lin, "Design of an intelligence traffic light controller (ITLC) with VHDL," Proceedings 2002 IEEE Region 10 Conference on Computers, Communications, Control and Power Engineering (TENCON '02), 28-31 Oct. 2002, vol 3, pp:1749 - 1752
6. "FPGA-Based Advanced Real Traffic Light Controller System Design". El-Medany, W.M. ; Univ. of Bahrain, Sakhr ; Hussain, M.R. DOI:10.1109/IDAACS.2007.4488383 Publisher:IEEE.

875-878

153.

Authors: B. Prathiba, Sarika R Khope, N. B. Hulle

Paper Title: A Proposed Method to Enhance the Quality of Data Communication in WSN using Modular Arithmetic

Abstract: Wireless sensor networks (WSN) are the current direction to monitor the resources and processes by developing fault tolerant distributed auto configure systems. High reliability is required to use WSN in safety

879-881

154.

systems, real time monitoring systems, guard systems and industrial control for all levels of the OSI model. To eliminate the noise and to process the information parallel by extending the signal spectrum using FHSS and Residue number system (RNS) based transformation. These approaches increase the reliability of data transmission in a WSN physical layer only. It is essential to have reliable data transmission in the network layer. When network topology is modified, packet loss is caused by overload and emergency or inaccessibility of units. Delay time increases because of packet retransmission. These considerations have led us to propose to work on “Performance studies on RNS based spread spectrum techniques for few communication channels”

Keywords: RNS, WSN, RRNS, RSNS, IGRSNS

References:

1. Amos Omondi, Benjamin Premkumar (2007) —Residue Number Systems, Theory and Implementationl, Vol 2 edn., London: Imperial College Press
2. Lie-Liang Yang and Lajos Hanzo Dept. of ECS, —Redundant Residue Number System Based Error Correction Codesl, University of Southampton, SO17 1BJ, UK.
3. A. S. Madhukumar and F. Chin, —Design and performance of residue number system based multicarrier CDMA in frequency-selective fading channels,l in Proc. 34th ASILOMAR Conf. Circuits Syst., USA, Nov. 2000, TA6-6.
4. A. S. Madhukumar and Francois Chin, —Residue Number System-Based Multicarrier CDMA System for High-Speed Broadband Wireless Accessl
5. Lie-Liang Yang, Senior Member, IEEE and Lajos Hanzo, Senior Member, IEEE, —Residue Number System Assisted Fast Frequency-Hopped Synchronous Ultra-Wideband Spread-Spectrum Multiple-Access: A Design Alternative to Impulse Radiol
6. Duc-Minh Pham, Student Member, IEEE, A. B. Premkumar, Senior Member, IEEE,and A. S. Madhukumar, Senior Member, IEEE, —Error Detection and Correction in Communication Channels Using Inverse Gray RSNS Codes”, *IEEE Transactions On Communications*, VOL. 59, NO. 4, APRIL 2011
7. F. Barsi and P. Maestrini, —Error correcting properties of redundant residue number systems," *IEEE Trans. Comput.*, vol. 23, no. 3, pp. 307- 315, Mar. 1973.
8. S. S.-S. Yau and Y.-C. Liu, —Error correction in redundant residue number systems," *IEEE Trans. Comput.*, vol. 22, no. 1, pp. 5-11, Jan. 1973.
9. E. D. D. Claudio and F. Piazza, —A systolic redundant residue arithmetic error correction circuit," *IEEE Trans. Comput.*, vol. 42, no. 4, pp. 427- 432, Apr. 1993.
10. R. S. Katti, —A new residue arithmetic error correction scheme," *IEEE Trans. Comput.*, vol. 45, no. 1, pp. 13-19, Jan. 1996.
11. L. L. Yang and L. Hanzo, —Residue number system assisted fast frequency-hopped synchronous ultra-wideband SSMA communications a design alternative to impulse radio," *IEEE J. Sel. Areas Commun.*, vol.20, no. 9, pp.1652-1663, Dec. 2002.
12. D. Styer and P. E. Pace, —Two channel RSNS dynamic range," *IEEE Trans. Circuits Syst. I*, vol. 49, pp. 395-397, Mar. 2002.
13. B. L. Luke and P. E. Pace, —N-sequence RSNS ambiguity analysis," *IEEE Trans. Inf. Theory*, vol. 53, no. 5, pp. 1759-1766, May 2007.
14. B. Prathiba, K. J. Sankar and V. Sumalatha, "Enhancing the data quality in wireless sensor networks — A review," 2016 International Conference on Automatic Control and Dynamic Optimization Techniques (ICACDOT), Pune, 2016, pp. 448-454.
15. Brian L. Luke, Phillip E. Pace. "RSNS-to-Binary Conversion", *IEEE Transactions on Circuits and Systems I: Regular Papers*, 2007

155.	Authors:	K. Spandana, Suresh Pabboju, Likhitha Chinthakuntla, Gorupally Sai Chandana
	Paper Title:	Current research on Internet of Things (IoT) in Agriculture
	<p>Abstract: IoT, a sensation in modern-day technology, has a major impact on the rapidly growing technological aspects. It’s making people’s life easier and also enabling us to do things that were previously seen as miracles. It helps in solving many complex real-time problems. One such major application in the field of agriculture can turn out to be productive and profitable. This paper explains a variety of techniques infusing IoT in agriculture, that helps in productive and predictive results in that field, thereby leading towards precision agriculture. A low-cost power supply and unambiguous farming can be possible with using IoT system. Wireless Sensor Networks (WSN) in which sensor nodes learn and adopt over the sensing time, gives simplicity, low energy usage. This is aimed to be deployed on a large scale by predicting using big data techniques from centralized data analysis.</p> <p>Keywords: Internet of Things, Wireless Sensor Networks, predictive farming, precision agriculture.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Akhil R, Gokul M S, Sruthi Menon and Lekshmi S Nair,” Automated Soil Nutrient Monitoring for Improved Agriculture”, IEEE International Conference on Communication and Signal Processing ISBN:978-1-5386-3521-6/18. 2. Zhao Liqiang, Yin Shouyi, Liu Leibo, Zhang Zhen, Wei Shaojun, “A Crop Monitoring System Based on Wireless Sensor Network”, <i>Procedia Environmental Sciences</i> 11 (2011) 558 – 565. 3. Surili Agarwal, Neha Bhangale, Kameya Dhanure, Shreeya Gavhane, V.A.Chakkarwar, Dr. M.B.Nagori, “Application of Colorimetry to determine Soil Fertility through Naive Bayes Classification Algorithm”, IEEE=43488, 9th ICCNT 2018 July 10-12, 2018, IISC, Bengaluru. 4. Deepa V. Ramane, Supriya S.Patil,A. D. Shaligram, “Detection of NPK nutrients of soil using Fiber Optic Sensor”, International Journal of Research in Advent Technology (E-ISSN: 2321-9637) Special Issue National Conference “ACGT 2015”, 13-14 February 2015. 5. Deepak Vasisht, Zerina Kapetanovic, Jong-ho Won, Xinxin Jin, Ranveer Chandra, Ashish Kapoor, Sudipta N. Sinha, Madhusudhan Sudarshan, Sean Stratman,” FarmBeats: An IoT Platform for Data-Driven Agriculture”, 14th UNISEX Symposium on Networked System Design and Implementation, pg:515-529. 6. Mohanraj I, KirthikaAshokumar, NarenJ,” Field Monitoring and Automation using IOT in Agriculture Domain”, 6th International Conference on Advances In Computing & Communications, ICACC 2016, September 2016, pg:931-939. 7. Rashmi Ranjan, Mehajabeen Fatima,” Survey Paper on IOT and Image Processing Based Crop Disease Identification System”, IJCSE, VOL-6, Issue-8, Aug 2018, E-ISSN:2347-2693. 8. Fan TongKe, “Smart Agriculture Based on Cloud Computing and IOT”, <i>Journal of Convergence Information Technology (JCIT)</i> Volume 8, Number 2, Jan 2013. 9. A.M.Ezhil Azhagi and P.T.V.Bhuvanewari, V.A. Chakkarwar, Dr. M.Nagori, “IoT Enabled Plant Soil Moisture Monitoring 	
		882-886

	<p>using Wireless Sensor Networks”, 2017 IEEE 3rd International Conference on Sensing, Signal Processing and ISBN: 978-1-5090-4929-5.</p> <ol style="list-style-type: none"> Jirpond Muangprathub, Nathaphon Boonam, Siriwan Kajornkasirat, Narongsak Lekbangpong, Apirat Wanichsombat, Pichet Hut Nilai, “IoT and Agriculture Data Analysis for Smart Farm”, Computer and Electronics in Agriculture, ELSEVIER Journal, 0618-1699. Ziang Zhou, Kun Xu, Dingyun Wu,” Design of Agricultural Internet of Things Monitoring System Based on ZigBee”, Chemical Engineering Transactions, VOL. 51, ISBN: 978-898-95608-43-3. G. Pandu Ranga Rao, V.V.S. Indira, P. Manikanta, Dr. M. Srinivas, “Large Scale Farming Analysis with the Help of IoT and Data Analysis”, IJAMSCR, VOL-2, Issue-3, March-2019, ISSN: 2581-4281. Edmond Nurellari, Saket Srivatsava, School of Engineering, University of Lincoln, “A Practical Implementation of an Agriculture Field Monitoring using Wireless Sensor Networks and IoT Enabled”, IEEE. M Manideep, Raghul Thukaram, Supriya M,”Smart Agriculture Farming with Image Capturing Module”, 2019 Global Conference for Advancement in Technology (GCAT) Bangalore, India. Oct 18-20, 2019 Victor Grimblatt, Guillaume Ferre, Francois Rivet, Christophe Jego, Nicolas Vergara,” Precision agriculture for small to medium size farmers - An IoT approach”, 978-1-7281-0397-6/19/\$31.00 ©2019 IEEE Mrs. Vaishali Puranik, Mrs. Sharmila, Mr. Ankit Ranjan, Ms. Anamika Kumari,” Automation in Agriculture and IoT”, 978-1-7281-1253-4/19/\$31.00 © 2019 IEEE. 									
156.	<table border="1"> <tr> <td>Authors:</td> <td>S. Elkhaldi, M. Moubadir, N. A Touhami, M. Aghoutane, T. Elhamadi</td> </tr> <tr> <td>Paper Title:</td> <td>Carrier to Intermodulation (C/I ratio) Calculations of a GaN 10W Class AB Power Amplifier</td> </tr> <tr> <td colspan="2"> <p>Abstract: This article presents the analysis and design of a circuit to generate 3rd- order intermodulation (IM3) products for a GaN 10W Class AB power amplifiers (PA), The intermodulation products can’t be eliminated by filters. So, it’s a critical problem to resolve in RF systems. The circuit has been studied using a two-tone signal at a center frequency of 3.7 GHz. The two tones test is applied to make a large signal analysis of the RF power amplifier. For this paper, the two frequencies are at (3.7 ± 0.005) GHz. The (C/I) ratio, is chosen to investigate the power amplifier non-linearity, and due to various causes, upper_C/I and lower_C/I, can be distinct.</p> <p>Keywords: - Microwave Amplifier; two tones; harmonic balance simulation; Intermodulation distortion; the carrier to intermodulation distortion power ratio (C/I).</p> </td> </tr> <tr> <td colspan="2"> <p>References:</p> <ol style="list-style-type: none"> M. A. Honarvar, M. N. Moghaddasi, and A. R. Eskandari, “Power amplifier linearization using feedforward technique for wide band communication system,” 2009 IEEE Int. Symp. Radio-Frequency Integr. Technol. RFIT 2009, pp. 72–75, 2009. S. Elkhaldi, N. A. Touhami, M. Aghoutane, and T.-E. Elhamadi, “LINC method for MMIC power amplifier linearization,” Recent Adv. Electr. Electron. Eng., vol. 12, no. 5, 2019. S. Elkhaldi, N. A. Touhami, M. Aghoutane, and T.-E. Elhamadi, “Improvement of Carrier Power to Third-Order Intermodulation Distortion Power Ratio in an ED02AH OMMIC Amplifier,” no. Milc. M. Rudolph and C. Fager, Nonlinear Transistor Model Parameter Extraction Techniques. 2011. P. Colantonio, F. Giannini, and E. Limiti, High Efficiency RF and Microwave Solid State Power Amplifiers. 2009. N. Khalid, T. Abbas, and M. Bin Ihsan, “Power amplifier design using GaN HEMT in class-AB mode for LTE communication band,” IWCNC 2015 - 11th Int. Wirel. Commun. Mob. Comput. Conf., pp. 685–689, 2015. J. Fritzin, A. Alvandpour, P. N. Landin, and C. Fager, “Linearity, intermodulation distortion and ACLR in outphasing amplifiers,” IEEE MTT-S Int. Microw. Symp. Dig., vol. 1, pp. 0–3, 2013. K. Bathich, A. Z. Markos, and G. Boeck, “A wideband GaN Doherty amplifier with 35 % fractional bandwidth,” Eur. Microw. Week 2010, EuMW2010 Connect. World, Conf. Proc. - Eur. Microw. Conf. EuMC 2010, no. September, pp. 1006–1009, 2010. </td> </tr> </table>	Authors:	S. Elkhaldi, M. Moubadir, N. A Touhami, M. Aghoutane, T. Elhamadi	Paper Title:	Carrier to Intermodulation (C/I ratio) Calculations of a GaN 10W Class AB Power Amplifier	<p>Abstract: This article presents the analysis and design of a circuit to generate 3rd- order intermodulation (IM3) products for a GaN 10W Class AB power amplifiers (PA), The intermodulation products can’t be eliminated by filters. So, it’s a critical problem to resolve in RF systems. The circuit has been studied using a two-tone signal at a center frequency of 3.7 GHz. The two tones test is applied to make a large signal analysis of the RF power amplifier. For this paper, the two frequencies are at (3.7 ± 0.005) GHz. The (C/I) ratio, is chosen to investigate the power amplifier non-linearity, and due to various causes, upper_C/I and lower_C/I, can be distinct.</p> <p>Keywords: - Microwave Amplifier; two tones; harmonic balance simulation; Intermodulation distortion; the carrier to intermodulation distortion power ratio (C/I).</p>		<p>References:</p> <ol style="list-style-type: none"> M. A. Honarvar, M. N. Moghaddasi, and A. R. Eskandari, “Power amplifier linearization using feedforward technique for wide band communication system,” 2009 IEEE Int. Symp. Radio-Frequency Integr. Technol. RFIT 2009, pp. 72–75, 2009. S. Elkhaldi, N. A. Touhami, M. Aghoutane, and T.-E. Elhamadi, “LINC method for MMIC power amplifier linearization,” Recent Adv. Electr. Electron. Eng., vol. 12, no. 5, 2019. S. Elkhaldi, N. A. Touhami, M. Aghoutane, and T.-E. Elhamadi, “Improvement of Carrier Power to Third-Order Intermodulation Distortion Power Ratio in an ED02AH OMMIC Amplifier,” no. Milc. M. Rudolph and C. Fager, Nonlinear Transistor Model Parameter Extraction Techniques. 2011. P. Colantonio, F. Giannini, and E. Limiti, High Efficiency RF and Microwave Solid State Power Amplifiers. 2009. N. Khalid, T. Abbas, and M. Bin Ihsan, “Power amplifier design using GaN HEMT in class-AB mode for LTE communication band,” IWCNC 2015 - 11th Int. Wirel. Commun. Mob. Comput. Conf., pp. 685–689, 2015. J. Fritzin, A. Alvandpour, P. N. Landin, and C. Fager, “Linearity, intermodulation distortion and ACLR in outphasing amplifiers,” IEEE MTT-S Int. Microw. Symp. Dig., vol. 1, pp. 0–3, 2013. K. Bathich, A. Z. Markos, and G. Boeck, “A wideband GaN Doherty amplifier with 35 % fractional bandwidth,” Eur. Microw. Week 2010, EuMW2010 Connect. World, Conf. Proc. - Eur. Microw. Conf. EuMC 2010, no. September, pp. 1006–1009, 2010. 		887-890
Authors:	S. Elkhaldi, M. Moubadir, N. A Touhami, M. Aghoutane, T. Elhamadi									
Paper Title:	Carrier to Intermodulation (C/I ratio) Calculations of a GaN 10W Class AB Power Amplifier									
<p>Abstract: This article presents the analysis and design of a circuit to generate 3rd- order intermodulation (IM3) products for a GaN 10W Class AB power amplifiers (PA), The intermodulation products can’t be eliminated by filters. So, it’s a critical problem to resolve in RF systems. The circuit has been studied using a two-tone signal at a center frequency of 3.7 GHz. The two tones test is applied to make a large signal analysis of the RF power amplifier. For this paper, the two frequencies are at (3.7 ± 0.005) GHz. The (C/I) ratio, is chosen to investigate the power amplifier non-linearity, and due to various causes, upper_C/I and lower_C/I, can be distinct.</p> <p>Keywords: - Microwave Amplifier; two tones; harmonic balance simulation; Intermodulation distortion; the carrier to intermodulation distortion power ratio (C/I).</p>										
<p>References:</p> <ol style="list-style-type: none"> M. A. Honarvar, M. N. Moghaddasi, and A. R. Eskandari, “Power amplifier linearization using feedforward technique for wide band communication system,” 2009 IEEE Int. Symp. Radio-Frequency Integr. Technol. RFIT 2009, pp. 72–75, 2009. S. Elkhaldi, N. A. Touhami, M. Aghoutane, and T.-E. Elhamadi, “LINC method for MMIC power amplifier linearization,” Recent Adv. Electr. Electron. Eng., vol. 12, no. 5, 2019. S. Elkhaldi, N. A. Touhami, M. Aghoutane, and T.-E. Elhamadi, “Improvement of Carrier Power to Third-Order Intermodulation Distortion Power Ratio in an ED02AH OMMIC Amplifier,” no. Milc. M. Rudolph and C. Fager, Nonlinear Transistor Model Parameter Extraction Techniques. 2011. P. Colantonio, F. Giannini, and E. Limiti, High Efficiency RF and Microwave Solid State Power Amplifiers. 2009. N. Khalid, T. Abbas, and M. Bin Ihsan, “Power amplifier design using GaN HEMT in class-AB mode for LTE communication band,” IWCNC 2015 - 11th Int. Wirel. Commun. Mob. Comput. Conf., pp. 685–689, 2015. J. Fritzin, A. Alvandpour, P. N. Landin, and C. Fager, “Linearity, intermodulation distortion and ACLR in outphasing amplifiers,” IEEE MTT-S Int. Microw. Symp. Dig., vol. 1, pp. 0–3, 2013. K. Bathich, A. Z. Markos, and G. Boeck, “A wideband GaN Doherty amplifier with 35 % fractional bandwidth,” Eur. Microw. Week 2010, EuMW2010 Connect. World, Conf. Proc. - Eur. Microw. Conf. EuMC 2010, no. September, pp. 1006–1009, 2010. 										
157.	<table border="1"> <tr> <td>Authors:</td> <td>Rupali A. Patil, V. V. Dixit</td> </tr> <tr> <td>Paper Title:</td> <td>Detection and Classification of Mammogram using Fusion Model of Multi-View Feature</td> </tr> <tr> <td colspan="2"> <p>Abstract: The greatest reason for ladies' demise on the planet today is Breast malignant growth. For bosom malignancy location and order advance building of picture arrangement and AI techniques has to a great extent been utilized. The involvement of mammogram classification saves the doctor’s and physician’s time. Aside from the different research on bosom picture characterization, not very many survey papers are accessible which gives a point by point depiction of bosom disease picture grouping methods, highlight extraction and choice techniques, order estimating parameterizations, and picture arrangement discoveries. In this paper we have focused on the survey of Convolutional Neural Network (CNN) methods for breast image classification in multiview features. In this review paper we have different techniques for classification along with their results and limitations for future research.</p> <p>Keywords: Breast cancer mammogram, multi-view feature fusion, classification, CNN.</p> </td> </tr> <tr> <td colspan="2"> <p>References:</p> <ol style="list-style-type: none"> Ravi K. Samala, Heang-Ping Chan, "Breast Cancer Diagnosis in Digital Breast Tomosynthesis: Effects of Training Sample Size on Multi-Stage Transfer Learning using Deep Neural Nets" Ieee Transactions On Medical Imaging, Vol. Xx, No. X, December 2017 Kun Z., and S.M.Ahmad "Classification of Breast Cancer Based on Histology Images Using Convolutional Neural Networks", ACCESS.2018.2831280,IEEEAccess. D.Lévy, A.Jain,"Breast Mass Classification from Mammogramsusing Deep Convolutional Neural Networks ", 30th Conference on Neural Information Processing Systems (NIPS 2016), Barcelona, Spain M. Mohsin Jadoon,1,2 Qianni Zhang,1 Ihsan Ul Haq, "Three-Class Mammogram Classification Based on Descriptive CNN Features", Hindawi BioMed Research International Volume 2017 Benjamin Q. Huynh Hui Li Maryellen L. Giger, "Digital mammographic tumor classification using transfer learning from deep convolutional neural networks", Journal of Medical Imaging 3(3), 034501 (Jul–Sep 2016 Inês Domingues and Car- doso, "Mass detection on mammogram images:A first assessment of deep learning techniques", 19th </td> </tr> </table>	Authors:	Rupali A. Patil, V. V. Dixit	Paper Title:	Detection and Classification of Mammogram using Fusion Model of Multi-View Feature	<p>Abstract: The greatest reason for ladies' demise on the planet today is Breast malignant growth. For bosom malignancy location and order advance building of picture arrangement and AI techniques has to a great extent been utilized. The involvement of mammogram classification saves the doctor’s and physician’s time. Aside from the different research on bosom picture characterization, not very many survey papers are accessible which gives a point by point depiction of bosom disease picture grouping methods, highlight extraction and choice techniques, order estimating parameterizations, and picture arrangement discoveries. In this paper we have focused on the survey of Convolutional Neural Network (CNN) methods for breast image classification in multiview features. In this review paper we have different techniques for classification along with their results and limitations for future research.</p> <p>Keywords: Breast cancer mammogram, multi-view feature fusion, classification, CNN.</p>		<p>References:</p> <ol style="list-style-type: none"> Ravi K. Samala, Heang-Ping Chan, "Breast Cancer Diagnosis in Digital Breast Tomosynthesis: Effects of Training Sample Size on Multi-Stage Transfer Learning using Deep Neural Nets" Ieee Transactions On Medical Imaging, Vol. Xx, No. X, December 2017 Kun Z., and S.M.Ahmad "Classification of Breast Cancer Based on Histology Images Using Convolutional Neural Networks", ACCESS.2018.2831280,IEEEAccess. D.Lévy, A.Jain,"Breast Mass Classification from Mammogramsusing Deep Convolutional Neural Networks ", 30th Conference on Neural Information Processing Systems (NIPS 2016), Barcelona, Spain M. Mohsin Jadoon,1,2 Qianni Zhang,1 Ihsan Ul Haq, "Three-Class Mammogram Classification Based on Descriptive CNN Features", Hindawi BioMed Research International Volume 2017 Benjamin Q. Huynh Hui Li Maryellen L. Giger, "Digital mammographic tumor classification using transfer learning from deep convolutional neural networks", Journal of Medical Imaging 3(3), 034501 (Jul–Sep 2016 Inês Domingues and Car- doso, "Mass detection on mammogram images:A first assessment of deep learning techniques", 19th 		891-895
Authors:	Rupali A. Patil, V. V. Dixit									
Paper Title:	Detection and Classification of Mammogram using Fusion Model of Multi-View Feature									
<p>Abstract: The greatest reason for ladies' demise on the planet today is Breast malignant growth. For bosom malignancy location and order advance building of picture arrangement and AI techniques has to a great extent been utilized. The involvement of mammogram classification saves the doctor’s and physician’s time. Aside from the different research on bosom picture characterization, not very many survey papers are accessible which gives a point by point depiction of bosom disease picture grouping methods, highlight extraction and choice techniques, order estimating parameterizations, and picture arrangement discoveries. In this paper we have focused on the survey of Convolutional Neural Network (CNN) methods for breast image classification in multiview features. In this review paper we have different techniques for classification along with their results and limitations for future research.</p> <p>Keywords: Breast cancer mammogram, multi-view feature fusion, classification, CNN.</p>										
<p>References:</p> <ol style="list-style-type: none"> Ravi K. Samala, Heang-Ping Chan, "Breast Cancer Diagnosis in Digital Breast Tomosynthesis: Effects of Training Sample Size on Multi-Stage Transfer Learning using Deep Neural Nets" Ieee Transactions On Medical Imaging, Vol. Xx, No. X, December 2017 Kun Z., and S.M.Ahmad "Classification of Breast Cancer Based on Histology Images Using Convolutional Neural Networks", ACCESS.2018.2831280,IEEEAccess. D.Lévy, A.Jain,"Breast Mass Classification from Mammogramsusing Deep Convolutional Neural Networks ", 30th Conference on Neural Information Processing Systems (NIPS 2016), Barcelona, Spain M. Mohsin Jadoon,1,2 Qianni Zhang,1 Ihsan Ul Haq, "Three-Class Mammogram Classification Based on Descriptive CNN Features", Hindawi BioMed Research International Volume 2017 Benjamin Q. Huynh Hui Li Maryellen L. Giger, "Digital mammographic tumor classification using transfer learning from deep convolutional neural networks", Journal of Medical Imaging 3(3), 034501 (Jul–Sep 2016 Inês Domingues and Car- doso, "Mass detection on mammogram images:A first assessment of deep learning techniques", 19th 										

edition of the Portuguese Conference on Pattern Recognition (RecPad), At Lisbon, Portuga, Nov 201.

7. Eric Wu, "Conditional Infilling GANs for Data Augmentation in Mammogram Classification", RAMBO BIA TIA@MICCAI 2018
8. S. S. Aboutalib, A.A. Mohamed, "Deep Learning to Distinguish Recalled but Benign Mammography Images in Breast Cancer Screening", Oct 11, 2018.8 American Association for Cancer Research.
10. Hongyu Wang, "Breast Mass Classification Via Deeply Integrating the Contextual Information from Multi-view Data", pattern Recognition, patcog.2018.02.026.
11. Shayan Shams, Richard Platania, "Deep Generative Breast Cancer Screening and Diagnosis", Springer Nature Switzerland AG 2018
12. Aimilia Gastounioti, PhD, Andrew Oustimo, "Using Convolutional Neural Networks for Enhanced Capture of Breast Parenchymal Complexity Patterns Associated with Breast Cancer Risk", Academic Radiology, 2018
13. Dhungel, Neeraj, "Fully automated classification of mammograms using deep residual neural networks", IEEE 14th International Symposium on Biomedical Imaging, 18-21 Apr 2017, Melbourne, VIC.
14. ZHIQIONG WANG^{1,5}, MO LI², HUAXIA WANG³, "Breast Cancer Detection Using Extreme Learning Machine Based on Feature Fusion with CNN Deep Features", 2019.2892795, IEEE Access,
15. Hasan Nasir Khan^{1,2}, Ahmad Raza Shahid^{1,2}, "Multi-View Feature Fusion based Four Views Model for Mammogram Classification using Convolutional Neural Network", 2019.2953318, IEEE Access
16. T. N. Cruz, "Detection And Classification Of Lesions In mammographies Using Neural Networks And Morphological Wavelets", Ieee Latin America Transactions, Vol. 16, No. 3, Mar 2018.
17. Xiaofei Zhang¹, Yi Zhang¹, Erik Y. Han, "Classification of whole mammogram and tomosynthesis images using deep convolutional neural networks", 2018.2845103, IEEE Transactions on Nano-Bioscience
18. Gustavo Carneiro, Jacinto Nascimento, And Andrew P. Bradley, "Automated Analysis Of Unregistered Multi-View Mammograms With Deep Learning", Ieee Transactions On Medical Imaging Vol. 36, No. 11, Nov 2017
19. KUI LIU¹, "Preparation of Papers for IEEE ACCESS", 2018.2817593, IEEE Access.
20. Mai S. Mabrouk a, Heba M. Afify b, Samir Y. Marzouk, "Fully automated computer-aided diagnosis system for micro calcifications cancer based on improved mammographic image techniques", ScienceDirect Ain Shams Engineering Journal 10 (2019) 517–527.
21. Aouatif Amine, Bouchra Nassih, Hanaa Hachimi "A highly efficient system for Mammographic Image Classification Using NSVC Algorithm" ScienceDirect Procedia Computer Science 148 (2019) 135–144.
22. M. Benndorf, "Provision of the DDSM mammography metadata in an accessible format," Medical Physics, vol. 41, no. 5, Article ID 051902, 2014.

158.	<p>Authors: F. Leena vinmalar, A. Kumar Kombaiya</p> <p>Paper Title: An Improved Dragonfly Optimization Algorithm based Feature Selection in High Dimensional Gene Expression Analysis for Lung Cancer Recognition</p> <p>Abstract: A microarray gene expression data is an efficient dataset for analyzing expression of thousands of genes and related disease. The more accurate analysis can be obtained by comparing Gene expression of disease tissues with normal tissues which helps to recognize the type of cancer. The processing of microarray datasets such as feature selection, sampling and classification is highly challenged due to its high dimensionality. Many recent researchers used various feature selection techniques for dimensionality reduction. Dragonfly optimization Algorithm (DA) was a feature selection technique used to reduce the dimensionality of lung cancer gene expression dataset. The dragonflies in DA are flying randomly based on the model developed by using the Levy Flight Mechanism (LFM). Because of huge searching steps, LFM has some drawbacks like interruption of arbitrary flights and overflowing of the search area. In fact, DA lacks an internal resemblance that record past potential solutions that can lead to its premature convergence into local optima. So, in this paper an Improved Dragonfly optimization Algorithm (IDA) is introduced which effectively reduces the dimensionality of the lung cancer gene expression dataset. In IDA, Brownian motion method is used to solve the issues of LFM and pbest and gbest idea of Particle Swarm Optimization (PSO) is used to direct the search method for finding potential candidate solutions to further refine the search space for avoiding premature convergence. The wrapper feature selection approach is followed by IDA to select optimal subset of features. The Random Sub space (RS), Artificial Neural Network (ANN) and Sequential Minimal Optimization (SMO) classifiers are utilized for feature selection of IDA and recognize Lung cancer subtypes. The accuracy of the classifier for selected features of Dragon flies in training instances is used as fitness value of Dragon flies in each iteration. Finally, the experimental results prove the effectiveness of the IDA in terms of accuracy, precision, recall and F-measure.</p> <p>Keywords: Lung cancer recognition; gene expression data; Dragonfly optimization Algorithm; Improved Dragonfly optimization Algorithm; Brownian motion method.</p> <p>References:</p> <ol style="list-style-type: none"> 1. H. Azzawi, J. Hou, R. Alanni, Y. Xiang, R. Abdu-Aljabar and A. Azzawi, "Multiclass lung cancer diagnosis by gene expression programming and microarray datasets," In Int. Conf. Adv. Data Min. Appl., Springer, Cham, pp. 541-553, 2017. 2. H. Azzawi, J. Hou, Y. Xiang, and R. Alanni, "Lung cancer prediction from microarray data by gene expression programming," IET syst. boil., vol. 10, no. 5, pp. 168-178, 2016. 3. J. Pati, "Gene Expression Analysis for Early Lung Cancer Prediction Using Machine Learning Techniques: An Eco-Genomics Approach," IEEE Access, vol. 7, pp. 4232-4238, 2018. 4. A. Wahid, D. M. Khan, N. Iqbal, S. A. Khan, A. Ali, M. Khan, and Z. Khan, "Feature selection and classification for gene expression data using novel correlation based overlapping score method via Chou's 5-steps rule," Chemom. Intell. Lab. Syst., vol. 199, pp. 1-24, 2020. 5. S. Sayed, M. Nassef, A. Badr, and I. Farag, "A Nested Genetic Algorithm for feature selection in high-dimensional cancer Microarray datasets," Expert Syst. Appl., vol. 121, pp. 233-243, 2019. 6. F. Hosseinzadeh, A. H. KayvanJoo, M. Ebrahimi, and B. Goliaei, "Prediction of lung tumor types based on protein attributes by machine learning algorithms," SpringerPlus, vol. 2, no. 1, pp. 1-14, 2013. 7. M. V. Dass, M. A. Rasheed, and M. M. Ali, "Classification of lung cancer subtypes by data mining technique," In Proc. IEEE Int. Conf. Control, Instrum., Energy Commun., pp. 558-562, 2014. 8. H. Azzawi, J. Hou, Y. Xiang, and R. Alanni, "Lung cancer prediction from microarray data by gene expression programming," IET syst. boil., vol. 10, no. 5, pp. 168-178, 2016. 	896-908
-------------	---	----------------

		<p>9. J. Ramos-González, D. López-Sánchez, J. A. Castellanos-Garzón, J. F. de Paz, and J. M. Corchado, "A CBR framework with gradient boosting based feature selection for lung cancer subtype classification," <i>Comput. boil. med.</i>, vol. 86, pp. 98-106, 2017.</p> <p>10. J. Pati, "Gene Expression Analysis for Early Lung Cancer Prediction Using Machine Learning Techniques: An Eco-Genomics Approach," <i>IEEE Access</i>, vol. 7, pp. 4232-4238, 2018.</p> <p>11. J. Wu, P. Guan, and Y. Tan, "Diagnosis and data probability decision based on Non-small cell lung cancer in medical system," <i>IEEE Access</i>, vol. 7, pp. 44851-44861, 2019.</p> <p>12. J. A. ALzubi, B. Bharathikannan, S. Tanwar, R. Manikandan, A. Khanna, and C. Thaventhiran, "Boosted neural network ensemble classification for lung cancer disease diagnosis," <i>Appl. Soft Comput.</i>, vol. 80, pp. 579-591, 2019.</p>	
159.	Authors:	Sampson Twumasi-Ankrah, Wilhemina Adoma Pels, Dennis Kankam Danquah, Doris Arthur	
	Paper Title:	Modeling the Effect of Climate Change and Economic Growth on food Security Indicators in Ghana	
	Abstract:	<p>Hunger is on the rise in almost all sub-regions of Africa, where the prevalence of undernourishment has reached levels of 22.8 percent in sub-Saharan Africa. Therefore, the purpose of this study is to examine the effect of economic growth and climatic factors on food security in Ghana using different functional forms of regression analysis. Annual secondary data on food security indicators, gross domestic product, CO₂, rainfall and temperature spanning from 1999 to 2017 were obtained from the Food and Agricultural Organization (FAO) and World Bank websites. The principal component analysis and regression method were used to reduce the dimensionality of the variable and model the effect of economic growth and climatic factors on food security in Ghana respectively. The dimensions of food availability, stability and utilization were reduced from 5, 6 and 9 variables to 2 variables respectively. However, the dimension of food accessibility was reduced from 3 variables to 1 variable. Food Security Index (FSI) was constructed for each of the food security indicators, and competing models were fitted to the data. It was observed that, GDP has a positive effect on food accessibility, availability, stability and utilization. However, temperature negatively affects food accessibility and stability but a positive effect on food utilization. Rainfall has a negative effect on food stability and CO₂ has a negative effect on food availability, stability and utilization.</p>	909-917
	Keywords:	Food Security, Principal Component Analysis, Food Security Index, and Regression	
	References:	<ol style="list-style-type: none"> 1. Akudugu, M. A., Dittoh, S., & Mahama, E. S. 2012. The implications of climate change on food security and rural livelihoods: Experiences from Northern Ghana. <i>Journal of Environment and Earth Science</i>, 2(3), 21-29. 2. Antwi, A. 2013. <i>Climate Change and Food Security: An Overview About the Issue</i>. Friedrich Ebert Foundation, pp. 13. 3. Asante, A. 2004. Assessment of food import and food aid against support for agricultural development, the case of Ghana. Draft report for FAO Regional Office, 10. 4. Atitsogbey, Patience 2016. The impact of climate change on food and nutrition security in the Bongo District of the upper east region of Ghana (Doctoral dissertation, University of Ghana) 5. Badolo, F., & Kinda, S. 2014. Climatic variability and food security in developing countries. <i>Etudes et Documents</i>, (05). 6. Barron, J., Kemp-Benedict, E., Morris, J., de Bruin, A., Wang, G., & Fencel, A. 2015. Mapping the potential success of agricultural water management interventions for smallholders: Where are the best opportunities?. <i>Water Resources and Rural Development</i>, 6, 24-49. 7. Carter, K. N., Lanumata, T., Kruse, K., & Gorton, D. 2010. What are the determinants of food insecurity in New Zealand and does this differ for males and females?. <i>Australian and New Zealand journal of public health</i>, 34(6), 602-608. 8. Christensen, J. H., Hewitson, B., Busuioc, A., Chen, A. G., & Gao, X. 2007. X., Held, I., Jones, R., Kolli, RK, Kwon, W. T., Laprise, R., Magana Rueda, V., Mearns, L., Menendez, CG, Raisanen, J., Rinke, A., Sarr, A. and Whetton, P. 9. Desai, B., Maskrey, A., Peduzzi, P., De Bono, A., & Herold, C. 2015. Making development sustainable: the future of disaster risk management, global assessment report on disaster risk reduction. 10. Dinko, H. D. 2017. Climate change and changing food security risk in Ghana. <i>African Journal of Agriculture and Food Security</i>, 5(3), 186-192. 11. FAO, IFAD, UNICEF, WFP and WHO. 2019. <i>The State of Food Security and Nutrition in the World 2019. Safeguarding against economic slowdowns and downturns</i>. Rome, FAO. Licence: CC BY-NC-SA 3.0 IGO. 12. Gregory, P. J., Ingram, J. S., & Brklacich, M. 2005. Climate change and food security. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i>, 360(1463), 2139-2148. 13. Herath, H. M. S. P. 2014. Impacts of Regional trade agreements (RTAS) on food security: A case of ASEAN Free trade agreement. <i>Impacts of Regional Trade Agreements (RTAs) on Food Security: A Case of ASEAN Free Trade Agreement (March 1, 2014)</i>. 14. Ingram, L. J., Stahl, P. D., Schuman, G. E., Buyer, J. S., Vance, G. F., Ganjegunte, G. K., ... & Derner, J. D. 2008. Grazing impacts on soil carbon and microbial communities in a mixed-grass ecosystem. <i>Soil Science Society of America Journal</i>, 72(4), 939-948. 15. Jolliffe, I. T., & Cadima, J. 2016. Principal component analysis: a review and recent developments. <i>Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences</i>, 374(2065), 20150202. 16. Kargbo, J. M. 2000. Impacts of monetary and macroeconomic factors on food prices in eastern and southern Africa. <i>Applied Economics</i>, 32(11), 1373-1389. 17. Keane, J., Page, S., Kergna, A., & Kennan, J. 2009. Climate change and developing country agriculture: An overview of expected impacts, adaptation and mitigation challenges, and funding requirements. <i>Issue Brief</i>, 2, 1-49. 18. Kofi, A. P. 2014. Determinants of food availability and access in Ghana: what can we learn beyond the regression results? <i>Studies in Agricultural Economics</i>, 116(3):153-164. 19. Mărza, B., Angelescu, C., & Tindeche, C. 2015. Agricultural insurances and food security. The new climate change challenges. <i>Procedia Economics and Finance</i>, 27, 594-599. 20. Molle, F., & Mollinga, P. 2003. Water poverty indicators: conceptual problems and policy issues. <i>Water policy</i>, 5(5-6), 529-544. 21. Misselhorn, A. A. 2005. What drives food insecurity in southern Africa? A meta-analysis of household economy studies. <i>Global environmental change</i>, 15(1), 33-43. 22. Rutten, M., Van Dijk, M., Van Rooij, W., & Hilderink, H. 2014. Land use dynamics, climate change, and food security in Vietnam: a global-to-local modeling approach. <i>World Development</i>, 59, 29-46. 23. Sagoe, R. 2006. Climate change and root crop production in Ghana. A report prepared for Environmental Protection Agency (EPA), Accra-Ghana February. 24. Schlenker, W., & Lobell, D. B. 2010. Robust negative impacts of climate change on African agriculture. <i>Environmental Research Letters</i>, 5(1), 014010. 	

25. Tadasse, G., Algieri, B., Kalkuhl, M., & Von Braun, J. 2016. Drivers and triggers of international food price spikes and volatility. In Food price volatility and its implications for food security and policy (pp. 59-82). Springer, Cham.
26. Twumasi-Ankrah, S., Odoi, B., Pels, W. A., & Gyamfi, E. H. 2019. Efficiency of imputation techniques in univariate Time Series.
27. Wood, A. L., Ansah, P., Rivers III, L., & Ligmann-Zielinska, A. 2019. Examining climate change and food security in Ghana through an intersectional framework. The Journal of Peasant Studies, 1-20.
28. Zorom, M., Barbier, B., Mertz, O., & Servat, E. 2013. Diversification and adaptation strategies to climate variability: A farm typology for the Sahel. Agricultural Systems, 116, 7-15.

160. Authors: D. Khasim Vali, Nagappa U Bhjantri

Paper Title: Optimal SVM with Features for MIR from Multi-Language

Abstract: Nowadays, the more attentiveness of humming scheme is MIR and query. Several existing works [1,3] are concentrated on the usage of Audio MIR and beat information which is computed by mechanical computer trial procedures. The design of music information retrieval is fundamentally working in search scheme. For a resourceful music search scheme, a few attributes measured to remove from the musical signal from dissimilar languages. For retrieval, model will consider optimal kernel Support Vector Machine (SVM) classifier, to produce a maximum signal retrieval rate in a short time. Here, entire analysis initially extracted some features from musical signal. Further, enhancing the retrieval level of proposed model Sequential Minimal Optimization (SMO) model utilized for SVM kernel function. In other words, the outcome demonstrates the work develop the consequences of the retrieval scheme. As of the consequences, the signal retrieval time has condensed by the highest precision of 97.3% through the optimal kernel SVM, which is edge over the contemporary effort.

918-925

Keywords: Musical signal, retrieval process, feature extraction, support vector machine, and optimization.

References:

1. Tao Li and Mitsunori Ogihara, "Toward Intelligent Music Information Retrieval", Journal of IEEE Transactions on Multimedia, Vol.8, No.3, pp.564-574, 2006.
2. Eric Humphrey, Juan Pablo Bello and Yann LeCun, "Moving Beyond Feature Design: Deep Architectures And Automatic Feature Learning In Music Informatics", Journal of society for music information retrieval, pp.403- 408, 2012.
3. Li Su, Chin-Chia Michael Yeh, Jen-Yu Liu, Ju-Chiang Wang, and Yi-Hsuan Yang, "A Systematic Evaluation of the Bag-of-Frames Representation for Music Information Retrieval", Journal of Ieee Transactions On Multimedia, Vol.16, No.5, pp.1188-1200, 2014.
4. Trisiladevi Nagavi and Nagappa Bhjantri, "Overview of Automatic Indian Music Information Recognition, Classification and Retrieval Systems", In Proceedings of International Conference on Recent Trends in Information Systems, pp.111-116, 2011.
5. Amanda Cohen Mostafavi, Zbigniew Ra' and Alicja Wieczorkowska, "Developing Personalized Classifiers for Retrieving Music by Mood", In Proceedings of Workshop on New Frontiers in Mining Complex Patterns, pp.1-12, 2013.
6. Mudiana Binti Mokhsin, Nurlaila Binti Rosli, Suzana Zambri, Nor Diana Ahmad and Saidatul Rahah Hamidi, "Automatic Music Emotion Classification Using Artificial Neural Network Based On Vocal And Instrumental Sound Timbres", Journal of Computer Science, Vol.10, No.12, pp.2584-2592, 2014.
7. Dmitry Bogdanov, Martín Haro, Ferdinand Fuhrmann, Anna Xambó, Emilia Gómez and Perfecto Herrera, "Semantic audio content-based music recommendation and visualization based on user preference examples", Journal of Information Processing and Management, Vol.49, pp. 13-33, 2013.
8. Michael Fell and Caroline Sporleder, "Lyrics-based Analysis and Classification of Music", In proceedings of Computational Linguistics: Technical Papers, pp. 620-631, Dublin, Ireland, August 23-29, 2014.
9. Will Archer Arentz, Magnus Lie Hetland and Bjørn Olstad, "Retrieving Musical Information Based on Rhythm and Pitch Correlations", Journal of New Music Research Vol.34, No.2, pp.151 -159, 2005.
10. Michael Casey, Remco Veltkamp, Masataka Goto, Marc Leman, Christophe Rhodes, and Malcolm Slaney, "Content-Based Music Information Retrieval: Current Directions and Future Challenges", In Proceedings of the IEEE [Vol. 96, No.4, pp.668-696, April 2008.
11. Stan Salvador and Philip Chan, "Fast DTW: Toward Accurate Dynamic Time Warping in Linear Time and Space", Journal of KDD workshop on mining temporal and sequential data, pp.1-11, 2004.
12. Hong-Ru Lee, Ching Chen and Jyh-Shing Roger Jang, "Approximate Lower-Bounding Functions For The Speedup Of DTW For Melody Recognition", Journal of Cellular Neural Networks and Their Applications, pp.178-181, 2005.
13. Jenq-Shiou Leu, Chieh Changfan, Kuan-Wu Su and Chi-Feng Chen, "Design and Implementation of Music Information Retrieval And Gathering Engine (MIRAGE)", In proceedings of 10th International Symposium on Pervasive Systems, Algorithms, and Networks, pp.498-501, 2009.
14. Kirthika nad Rajan Chattamvelli, "A Review of Raga Based Music Classification and Music Information Retrieval (MIR)", In proceedings of Engineering Education: Innovative Practices and Future Trends (AICERA), pp.1-5, 2012.
15. Aziz Nasridinov and Young-Ho Park, "A Study on Music Genre Recognition and Classification Techniques", Journal of Multimedia and Ubiquitous Engineering, Vol.9, No.4 pp.31-42, 2014.
16. George Tzanetakis, Andrey Ermolinsky and Perry Cook, "Pitch Histograms in Audio and Symbolic Music Information Retrieval", Journal of New Music Research, Vol.32, No.2, pp.143-152, 2003.
17. Adit Jamdar, Jessica Abraham, Karishma Khanna and Rahul Dubey, "Emotion Analysis Of Songs Based On Lyrical And Audio Features", Journal of Artificial Intelligence & Applications (IJAA) Vol. 6, No.3, pp. 35-50, May 2015.
18. Abhishek Sen, "Automatic Music Clustering using Audio Attributes", Journal of Computer Science Engineering, Vol.3, No.6, pp.307-312, 2014.
19. Baixi Xing, Kejun Zhang, Shouqian Sun, Lekai Zhang, Zenggui Gao, Jiayi Wang and Shi Chen, "Emotion-driven Chinese folk music-image retrieval based on DE-SVM", Journal of Neurocomputing, Vol.148, pp.619-627, 2015.
20. Chithra, Siniath and Gayathri, "Music Information Retrieval for Polyphonic Signals using Hidden Markov Model", In proceedings of Information and Communication Technologies, Vol.46, pp.381-387, 2015.
21. Grzegorz Gwardys and Daniel Grzywczak, "Deep Image Features in Music Information Retrieval", Journal Of Electronics And Telecommunications, Vol.60, No.4, pp. 321-326, 2014.
22. Deepa and Suresh, "An optimized feature set for music genre classification based on Support Vector Machine", Journal of Intelligent Computational Systems (RAICS), pp.610-614, 2011.
23. Olmo Cornelis, Micheline Lesaffre, Dirk Moelants nad Marc Leman, "Access to ethnic music: Advances and perspectives in content-based music information retrieval", Journal of Signal Processing, Vol.90, pp.1008-1031, 2010.

	24. Ali Gedik and Baris - Bozkurt, "Pitch-frequency histogram-based music information retrieval for Turkish music", Journal of Signal Processing, Vol.90, pp.1049–1063, 2010.		
161.	Authors:	Jenyfal Sampson, S. P. Velmurugan, D. Abhiram Reddy, G. Kumar Sai Reddy, G. Harika	
	Paper Title:	A Low Budget Touch less Door Bell with Integrated Intruder Alerting Safety System	
	<p>Abstract: A Door bell is a signaling device of your home which is used to indicate the Owner (host) that someone is at your door-step. The problem that is faced today is the touch contact of the Door-bell switch, wherein everyone will have to touch it, not having any other option than knocking or slamming the door. This is a critical issue condition nowadays, when by chance a Corona affected person unintentionally touches the switch, later followed by a healthy person, wherein which it now acts as a source of transmission. A touch less door bell (Buzzer) using sensors will solve this issue, wherein available solutions have Ultrasonic sensors for the same. Similarly this door bell can also produce a strong intensity of signal which can also be used as an alert system, if an intruder is trying to enter, while the host is not in the house. To implement both these together a PIR sensor would additionally be required to enable the Ultrasonic sensor and Sound sensor. The alert system can be controlled by the Host with the help of a Switch placed inside the house. The host is being alerted with a message in both scenarios with the help of a GSM module. All of these controlled by a single microcontroller, and the reuse of PIR and Buzzer, makes it cost effective.</p> <p>Keywords: Arduino UNO Microcontroller, GSM, Ultrasonic sensor, PIR sensor, Sound Sensor.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Cheng-Hung Tsai [et al], "PIR-sensor-based Lighting Device with Ultra-low Standby Power Consumption," IEEE Transactions on Consumer Electronics, 2011, 57(3):pp. 1-6. 2. Oshung Doh, Ilkyu Ha, A Digital Door Lock System for the Internet of Things with Improved Security and Usability, Advanced Science and Technology Letters, 2015, Vol. 109, pp.33-38. 3. Ilkyu Ha, Security and Usability Improvement on a Digital Door Lock System based on Internet of Things, International Journal of Security and Its Applications, 2015, Vol. 9, pp.45-54. 4. M. A. Kader [et al], Design and implementation of a digital calling bell with door lock security system using fingerprint, International Conference on Innovations in Science, Engineering and Technology (ICISSET), Dhaka, 2016, pp.1-5. 5. Bhadane, Wani, Shukla, Yeole, "A Review on Home Control Automation Using GSM and Bluetooth.," International Journal of Advanced Research in Computer Science and Software Engineering, 2015, Volume 5, Issue 2. 6. W. Park and Y. Cheong, IoT smart bell notification system: Design and implementation, 19th International Conference on Advanced Communication Technology (ICACT), Bongpyeong, 2017, pp. 298-300. 7. P. N. Saranu [et al], Theft Detection System using PIR Sensor, 4th International Conference on Electrical Energy Systems (ICEES), Chennai, 2018, pp.656-660. 8. H. K. Patel, T. Mody and A. Goyal, Arduino Based Smart Energy Meter using GSM, 4th International Conference on Internet of Things: Smart Innovation and Usages (IoT-SIU), Ghaziabad, 2019, V, pp.1-6. 		926-930
162.	Authors:	S. Ramesh Kumar, Srikanth Vemuru, Srinath.A	
	Paper Title:	Crop Surveillance using Unmanned Aerial Vehicle for Precision Agriculture	
	<p>Abstract: Precision agriculture (PA) is a combination of latest technologies planned to increase the productivity and profitability by retaining the quality of the fertile land and surrounding environment. Crop monitoring in precision agriculture will be achieved by implementing innovative techniques; however the utilization of Wireless Sensor Network (WSNs) results in low power and low cost utilization arrangements thus turning into a predominant alternative. It is likewise outstanding that harvests are additionally influenced adversely by interlopers (human or animals) and by insufficient control of the production process. Crop surveillance through drone is one of the technical approaches to capture and distinguish the crop patterns, which helps in early detection of the crop damage, leads the farmers to take care for crop yield. Drone is also termed as Unmanned Aerial Vehicle (UAV). These vehicles are equipped with required electronic sensors, cameras and a flight control system to simulate the UAV, with small in size and flexible to handle and operate, These Aerial Vehicles can operate within indoor as well as at outdoor. The goal of the research is to contribute to the implementation and deployment of remote sensing technology with UAV. This paper enumerate on the applications of UAVs for crop scouting and analyzing the transmitted images using NDVI to predict the crop growth and yield.</p> <p>Keywords: Wireless Sensor Network, Drones, Video Surveillance, NDVI.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Everaerts, J. (2008) "The use of unmanned aerial vehicles (UAVs) for remote sensing and mapping." The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, 37(2008), pp.1187-1192. 2. Bendig, J., Bolten, A., & Bareth, G. (2012) "Introducing a low-cost mini-UAV for thermal-and multispectral-imaging." Int. Arch. Photogramm. Remote Sens. Spat. Inf. Sci, 39, pp.345-349. 3. Zhang, C., & Kovacs, J. M. (2012). The application of small unmanned aerial systems for precision agriculture: a review. Precision agriculture, Springer, 13(6), 693-712 4. Primicerio, J., Di Gennaro, S. F., Fiorillo, E., Genesio, L., Lugato, E., Matese, A., & Vaccari, F. P. (2012) "A flexible unmanned aerial vehicle for precision agriculture." Precision Agriculture, 13(4), 517-523. 5. Pankaj Sharma, "Socio-Economic Implications of WSN with Special Reference to its Application in Agriculture".IEEE Afr J Cmpm & ICT-Vol6. No.2, June 2013. 6. Gopichand Allaka., "Modelling and Analysis of Multicopter Frame and Propeller", International journal of Research in Engineering and Technology, 2013 7. Colomina, I., & Molina, P. (2014) "Unmanned aerial systems for photogrammetry and remote sensing: A review." ISPRS Journal of Photogrammetry and Remote Sensing, 92, pp.79-97. 		931-935

8. Faical, B.S., Costa, F.G., Pessin, G., Ueyama, J., Freitas, H., Colombo, A., et al. (2014) "The use of unmanned aerial vehicles and wireless sensor networks For spraying pesticides" Journal of Systems Architecture, 60(4), 393-404.
9. Bruno S. Faical, Fausto G. Costa, Gustavo pessin, Jo ueyame etal. "The use of unmanned aerial vehicles and wireless sensor network for spraying pesticides", Journal of System Architecture, 2014.
10. Pederi, Y. A., & Cheporniuk, H. S. (2015) "Unmanned Aerial Vehicles and new technological methods of monitoring and crop protection in precision agriculture." In Actual Problems of Unmanned Aerial Vehicles Developments (APUAVD), 2015 IEEE International Conference (pp. 298-301). IEEE.
11. Giles, D. K., & Billing, R. C. (2015) "Deployment and Performance of a UAV for Crop Spraying." Chemical Engineering Transactions, 44, pp.307-322.
12. Maurya, P. (2015) "Hardware implementation of a flight control system for an unmanned aerial vehicle." Retrieved 06 01, 2015, from Computer science and engineering: <http://www.cse.iitk.ac.in/users/moona/students/Y2258.pdf>.
13. Simelli, Ioanna., & Tsagaris, A. (2015) "The Use of Unmanned Aerial Systems (UAS) in Agriculture." In HAICTA, pp. 730-736
14. Kale, S. D., Khandagale, S. V., Gaikwad, S. S., Narve, S. S., & Gangal, P. V. (2015). "Agriculture Drone for Spraying Fertilizer and Pesticides." Published in International journal of Advanced Research in Computer science and Software engineering, 5(12): 804- 807.
15. Aditya S. Natu., Kulkarni, S., C. (2016) "Adoption and Utilization of Drones for Advanced Precision Farming: A Review." published in International Journal on Recent and Innovation Trends in Computing and Communication, ISSN: 2321-8169, Volume: 4 Issue: 5 PP.563 - 565.
16. Kedari, S., Lohagoanar, P., Nimbokar, M., Palve, G., & Yevale, P. (2016) "Quadcopter-A Smarter Way of Pesticide Spraying." Imperial Journal of Interdisciplinary Research, 2(6)
17. Yallappa, D., Veerangouda, M., Maski, D., Palled, V., & Bheemanna, M. (2017, October) "Development and evaluation of drone mounted sprayer for pesticide applications to crops." IEEE Global Humanitarian Technology Conference (GHTC) 2017 IEEE (pp. 1-7).
18. Sohail, S., Nasim, S., & Khan, N. H. (2017) "Modeling, controlling and stability of UAV Quad Copter." IEEE International Conference in Innovations in Electrical Engineering and Computational Technologies (ICIEECT-2017), pp. 1-8.
19. UM Rao Mogili, B B V L Deepak. "Review on Application of Drone Systems in Precision Agriculture", Procedia Computer Science, 2018.
20. Mauro Tropea, Amilcare Francesco Santamaria, Floriano De Rango, Giuseppa Potrino. "Ractive Flooding Versus Link State Routing for FANET in Precision Agriculture", 2019 16th IEEE Annual Consumer Communications & Networking Conference (CCNC), 2019.

Authors: K. Ravi Kumar, P. Rajesh Kumar, G. Manmadha Rao, B. Chinna Rao

Paper Title: Implementation of GOA to Non-Uniform PRI of SFPT for improving Resolution in Radar

Abstract: Pulse compression techniques are mostly used for increasing range resolution in radar systems. Stepped Frequency Pulse Train (SFPT) signal is well suitable in pulse compression techniques. The Pulse Repetition Interval (PRI) of the SFPT is varied to avoid the blind speed and in Counter Measures. Here, evolutionary algorithms are used to optimize non-uniform PRI sequence of SFPT signal for getting better resolution. The PSLR(Peak Sidelobe Ratio) and ISLR (Integrated Sidelobe Ratio) are the performance measures of the signal. The non-uniform PRI sequence is optimized by Differential Evolutionary Algorithm (DE) but it has several drawbacks including unstable convergence in the last period and easy to drop into regional optimum. To overcome this, Grasshopper Optimizer Algorithm (GOA) is used in this paper for increasing the PSLR of Non uniform PRI SFPT signal.

Keywords: PSLR, ISLR, PRI, DE Algorithm, GOA

References:

1. Merrill I. Skolnik, "Introduction to Radar System.(3rd ed.)," NewYork: McGraw-Hill, 2002
2. D. R. Wehner, High resolution Radar, Artech house, Boston, 1995.
3. Mark W. Maier, " Non-uniform PRI Pulse Doppler Radar" IEEE1993
4. Barton, D.K., "Pulse compression", Dedham,M.A: Artech House, INC., 1974.
5. Manmadharao.G, "Performance Evolution Of Non-Uniform PRI LFM Signal", International Journal of Engineering Science and Technology (IJEST),Vol. 4, No.05 May 2012
6. Mahafza,B.R., "Radar System Analysis and Design Using MATLAB", Chapman &Hall/CRC, 2000.
7. NadavLevanon and Eli Mozeson, "Radar Signals", IEEE Press, John Wiley & Sons, INC., Publication 2004.
8. G. Manmadha Rao, "Optimization of Radar signals performance using Genetic and Differential Evolution Algorithms"IRACST – Engineering Science and Technology:AnInternational Journal (ESTIJ), Vol.3, No.3, June 2013.
9. D. E. Maron, "Frequency-jumped burst waveforms with stretch processing," in Radar Conference, 1990., Record of the IEEE 1990 International. IEEE, 1990, pp. 274-279.
10. N. Levanon and E. Mozeson, "Nullifying ACF grating lobes in stepped frequency train of Ifm pulses," Aerospace and Electronic Systems, IEEE Transactions on, vol.39, no.2, pp. 694-703, 2003.
11. Swagatam Das, and Ponnuthurai Nagaratnam Suganthan –"Differential Evolution: A Survey of the State-of-the-Art", IEEE Trans., pp: 4-31, Feb-2011.
12. R.Fletcher, "Practical Methods of Optimization", John Wiley and Sons, pp: 75-92 1987.
13. J. Nanda and R. Narayan, "Application of Genetic Algorithm to Economic Load Dispatch with Line Flow Constraints," Electrical Power and Energy Systems, vol. 24, pp. 723-729, 2002.
14. G. Manmadha Rao, K. Raja Rajeswari, "Optimization of Radar signals performanceusing Genetic and Differential EvolutionAlgorithms",IRACST – Engineering Science and Technology,ISSN: 2250-3498, vol.3, 2013.
15. Topaz C.M., Bernoff A.J., Logan S., Toolson W., "A model for rolling swarms of locusts", The European Physical Journal Special Topics, vol. 157, pp. 93-109, 2008.
16. Saremi S., Mirjalili S., Lewis A., "Grasshopper Optimization Algorithm: Theory and Applications", Advances in Engineering Software, vol.105, pp. 30-47, 2017.
17. K. Ravi Kumar and P. Rajesh Kumar, "Performance Evaluation of Multi-Objective Grasshopper Optimization Algorithm to Reduce the Grating Lobes and Sidelobes," Jour of Adv Research in Dynamical & Control Systems, Vol. 10, 06-Special Issue, pp. 634-643, 2018.

936-943

163.

164. Authors: Bader Alwasel

Paper Title: Robustness Analysis of Structural Controllability for Directed Networks Against Single Edge Attacks

Abstract: Infrastructure systems are an essential component, evolving with greater interconnectivity and interdependence at varying degrees. The control robustness of a network against malicious attack and random failure also becomes a further considerable problem in network controllability and its robustness. An adversary who is adequately knowledgeable about the control system can take control of aspects of the network as it can compromise the control network's subset of critical nodes and/or disconnect parts of the control network resulting in low observability. Therefore, safeguarding critical infrastructure systems from different disruptions is primarily significant. This paper focuses the POWER DOMINATING SET (PDS) problem, originally introduced by Haynes to study the structure of electric power network control systems and their efficient control, as an alternate framework for the examination of the structural controllability of networks. However, PDS is generally known to be NP-complete with low approximability with recent work focusing on studying properties of restricted graph classes. Based on the PDS problem, this paper also is dedicated to studying the different edge attack strategies, as well as the robustness of network controllability of Erdős-Rényi networks with directed control links under single edge attacks. MATLAB will be utilized in order to produce a simulative evaluation for more realistic critical infrastructure networks such as real power networks.

Keywords: Complex Network; Structural Controllability; Attack Models; Cyber Physical Systems

References:

1. Rashid, N., Wan, J., Quiros, G., Canedo, A., and Al Faruque, M. A. "Modeling and Simulation of Cyberattacks for Resilient Cyber-Physical Systems", In 13th IEEE Conference on Automation Science and Engineering (CASE), Xi'an, 2017, pp. 988-993.
2. Pu, C.L., Pei, W.J., Michaelson, A. "Robustness Analysis of Network Controllability", *Physica A: Statistical Mechanics and its Applications*, vol. 391, no. 18, pp. 4420-4425, 2012.
3. Albert, R., Jeong, H., and Barabási, A.-L. "Error and attack tolerance of complex networks", *Nature* vol. 406, 6794, pp. 378382, 2000.
4. Lin, C.T., "Structural Controllability", *IEEE Transactions on Automatic Control*, vol. 19, no. 3, pp. 201-208, 1974.
5. Kalman, R.E. "Mathematical Description of Linear Dynamical Systems", *Journal of the Society of Industrial and Applied Mathematics Contro*, Series A1, pp. 152192, 1963.
6. Liu, Y.Y., Slotine, J.J., Barabási, A.L. "Controllability of Complex Networks", *Nature* 473, pp. 167-173, 2011.
7. Haynes, T.W., Hedetniemi, S.M., Hedetniemi, S.T., Henning, M.A., "Domination in Graphs Applied to Electric Power Networks", *SIAM Journal on Discrete Mathematics*, vol. 15, no. 4, pp. 519-529, 2002.
8. Alcaraz, C., Miciolino, E. E., and Wolthusen, S. D. "Structural Controllability of Networks for Non-interactive Adversarial Vertex Removal", In *Proceedings of the 8th International Workshop on Critical Information Infrastructures Security (CRITIS 2013)*, 8328, Amsterdam, The Netherlands, Springer-Verlag, 2013, pp. 120-132.
9. Guo, J., Niedermeier, R., Raible, D. "Improved Algorithms and Complexity Results for Power Domination in Graphs. *Algorithmica*", vol. 52, no. 2, pp. 177-202, 2008.
10. Kneis, J., Mölle, D., Richter, S., Rossmanith, P. "Parameterized Power Domination Complexity", *Information Processing Letters*, vol. 98, no. 4, pp. 145-149, 2006.
11. Feige, U. "A Threshold of $\ln n$ for Approximating Set Cover", *Journal of the ACM*, vol. 45, no. 4, pp. 634-652, 1998.
12. Aazami, A. "Domination in Graphs with Bounded Propagation: Algorithms, Formulations and Hardness Results", *Journal of Combinatorial Optimization*, vol. 19, no. 4, pp. 429-456, 2012.
13. Liao, C.S., Lee, D.T. "Power Domination Problem in Graphs", In *Proceedings of the 11th Annual International Conference on Computing and Combinatorics (COCOON 2005)*, 3595, Kunming, China, Springer-Verlag, August 2005, pp. 818-828.
14. Binkele-Raible, D., Fernau, H. "An Exact Exponential Time Algorithm for POWER DOMINATING SET", *Algorithmica*, vol. 63, no. 1-2, pp. 323-346, 2012.
15. Aazami, A. and Stilp, K. "Approximation Algorithms and Hardness for Domination with Propagation", *SIAM Journal on Discrete Mathematics*, vol. 23, no. 3, pp. 1382-1399, 2009.
16. Alwasel, B. and Wolthusen, S. D. "Structural Controllability Analysis via Embedding Power Dominating Set Approximation in Erdős-Rényi Graphs", In the proceedings of the 29th IEEE International Conference on Advanced Information Networking and Applications (AINA- 2015), Gwangju, Korea, IEEE Press, 2015.
17. Alwasel, B. and Wolthusen, S. D. "Recovering Structural Controllability on Erdős-Rényi Graphs via Partial Control Structure Re-Use", In 9th International Conference on Critical Information Infrastructures Security (CRITIS 2014), Limassol, Cyprus, Springer-Verlag, 2014.
18. Lu, Z. M and Li, X. F. "Attack Vulnerability of Network Controllability", *PLoS one*, vol. 11, no. 9, 2016.
19. Wang, B., Gao, L., Gao, Y., & Deng, Y. "Maintain the Structural Controllability under Malicious Attacks on Directed Networks", *Europe Physics Letters*, vol. 101, no. 5, 2013, pp. 1-6.
20. Bollobás, B and Riordan, O. "Robustness and Vulnerability of Scale-Free Random Graphs", *Internet Mathematics*, vol. 1, no. 1, 2003, pp. 1-35.
21. Sudakov, B. and Vu, V. H. "Local Resilience of Graphs. Random Structures and Algorithms", vol. 33, no. 4, 2008, pp. 409-433.
22. Zhang, S. and Wolthusen, S. D. "Efficient Control Recovery for Resilient Control Systems", In 15th International Conference on Networking, Sensing and Control (ICNSC), Zhuhai, IEEE, 2018, pp. 1-6.
23. Zhang, S. and Wolthusen, S. D. "Efficient Analysis to Protect Control into Critical Infrastructures", In *International Conference on Critical Information Infrastructures Security*, Cham, Springer, 2018, pp. 226-229.
24. Nie, S., Wang, X., Zhang, H., Li, Q., and Wang, B. "Robustness of Controllability for Networks Based on Edge-Attack", *Public Library of Science ONE*, vol. 9, no. 2, 2014, pp. 1-8.
25. Holme, P., Kim, B. J., Yoon, C. N., and Han, S. K. "Attack Vulnerability of Complex Networks", *Physical Review E*, vol. 65, no. 5, 2002.
26. Lv-Lin, H., Song-Yang, L., Gang, L., and Liang, B. "Controllability and Directionality in Complex Networks", *Chinese Physics Letters*, vol. 29, no. 10, 2012.
27. Zhang, S. and Wolthusen, S. D. "Security-aware network analysis for network controllability", In 32nd International Conference on Advanced Information Networking and Applications Workshops (WAINA), IEEE, 2018.
28. Bollobás, B. "Random Graphs", volume 73 of *Cambridge Studies in Advanced Mathematics*, Cambridge University Press, Cambridge, UK, 2nd edition, 2001.
29. Alwasel, B. "Recovery of Structural Controllability into Critical Infrastructures under Malicious Attacks", *International Journal of Advanced Computer Science and Applications*, vol. 11, no. 4, 2020, pp. 723-728

944-951

Authors:

Pallavi, Seerapu Anil Nagendra, S V Uma

165.	Paper Title:	Eluding Side Channel Attacks by using Masking 128Bit AES Design	
	Abstract:	Advanced encryption standard is detailing for data crypto graphing. The algorithm used universally for cryptography and secure data transmission, the algorithm puissant to intruders, who often attack via side channels. One of the observed attacks was estimate the power implanted in AES core and processed probable scrutinizing to guess the key on multiple iterations. So in order to elude side channel attacks and reduce power consumed in AES standard, design proposed with masking and pipeline scheme. This design helps in shrinking power consumption as compare to AES algorithm and upgrade to withstand from attacks. Another major improvement in the design is LUT's used for masking and original algorithm almost equal, area phenomenon also solved out. The proposed algorithm implemented in VERTEX-7 FPGA board and simulated using Xilinx Vivado 2015.2 and Modelsim.	992-955
Keywords:	AES crypto graphing, side channel attacks, intruder, pipelining, trade-off, S box, Galois fields, cipher, masking.		
References:	<ol style="list-style-type: none"> 1. Y. Chou And S. L. Lu, " A High Performance, Low Energy, Compact Masked 128 Bit Aes In 22nm Cmos Technology",2019 International Symposium On Vlsi Design, Automation And Test(Vlsi-Dat),Hsinchu,Taiwan,Pp.1-4. 2. Announcing The Advanced Encryption Standard(Aes), Fips Pubs, Nist, Usa, November 26,2011. 3. W.Yu And Kose, "A Lightweight Masked Aes Implementation For Securing Iot Against Cpa Attacks", In Ieee Transaction On Circuits And Systems I:Regular Papers,Vol.64,No.11,Pp.2934-2944,Nov.2017. 4. Regazzoni,Francesco,Yi Wang,And Francois-Xavier Standaert, "Fpga Implementation Of The Aes Masked Against Power analysis attacks" In proceedings of COSADE,Vol.2011,pp.56-66,2011. 5. Mangard,Stefer,Norbert Pramsaller,and Elisabeth Oswald. "Successfully attacking masked AES hardware implementations" In International Workshop on Cryptographic Hardware and Embedded Systems,pp.157-171,Spronger,Berlin,Heidelberg,2005. 6. Balamurugan.J,and E.logashanmugham. "Design of High Speed and Lowe Area Masked AES Using Complexity Reduced Mix-Column Architecture",Intenrational Journal of Computer Science and Engineering Communications 2,no.2(2014):428-433. 7. Trichina, Elena, Domenico De Seta, And Lucia Germane. " Simplified Adaptive Multiplicative Masking For Aes." In International Workshop On Cryptographic Hardware and Embedded Systems,pp.187-197,Springer,Berlin,Heidelberg,2002 8. Peng,Yimai,Haobo Zhao,XU n Sun,and Chen Sun. " A side-channel attack resistant AES with 500Mbps,1.92 pj/bit PVT variation tolerant true random number generator",In 2017 IEEE Computer society Annual Symposium on VLSI(ISVLSI),pp.249-254. IEEE,2017. 9. Putra,Septafiasnsyah Dwi,Adang Suwandi Ahmad,Sarwono Sutikno,and Yusuf Kurniawan. "Attacking AES-Masking encryption device with correlation power analysis",International journal of communication networks and information security 10, no.2(2018): 397-402. 10. Jiao, ge, lang li, and yi zou. " an optimized aes masking method for resistive side channel analysis" , in international conference on computer engineering and networks, pp.876-884. Springer, cham, 2018. 11. Oshida,Hirokazu, Rei Ueno, Naofumi Homma , And Takafumi Aoki. " On Masked Galois – Field Multiplication For Authenticated Encryption Resistant To Side-Channel Analysis" , In International Workshop On Constructive Side-Channel Analysis And Secure Design, Pp.44-57. Springer, Cham, 2018. 12. Shvartsman, Phillip, And Xinmiao Zhang. "Side Channel Attack Resistant Aes Design Based Based On Finite Field Construction Variation" , In 2019 Ieee International Workshop On Signal Processing Systems (Sips), Pp.67-72. IEEE, 2019. 		
166.	Authors:	B. Sivaram, K. M. Balaji, M. Aasaf Ahamed, I. Ganapathy Raman, T. Ramakrishnan	
Paper Title:	Better Performance of a Smart Irrigation System using the Best Combination of Sensors and Digital Communication Devices		
Abstract:	Once upon a time, India is rich in vegetation and agriculture. Now, the current scenario is totally different. Every Indian has been trained to work in different fields. In our day to day life, water has increased its demands in overall world which results in water scarcity. This kind of factors affects the regular plantation fields and home gardening. In this connection, we have proposed a methodology to overcome this problem. In the proposed research, a kit with probes and sensors is developed to measure the moisture and humidity level of plants in order to ensure the required water quantity. A solenoid valve is controlled through automation by pre-setting the values of moisture. If the moisture level goes down below certain value, then the solenoid valve is set to open and the water flows. On keeping the sensors on the top of the soil would not sense the parameters effectively which leads to unreliable results. So, in our suggested 0technique, the sensors are placed just below the soil surface, which is nearby closer to the roots of the plant, for getting the significant outcomes. The humidity sensor measures the humidity present in the air and indicates the probability of rain. This feature helps the farmers and the other gardeners in their routine work. This leads to make our country as green and rich in agriculture. There are two more sensors used viz., the flow sensor for measuring the flow rate as well as the volume of water used and the ultrasonic sensor for measuring the water level in the tank for control purpose. The sensors' data can be communicated to the remotely located user through digital communication devices such as NodeMCU (Arduino) and Internet of Things - Blynk platform.		956-959
Keywords:	Agriculture, Sensor, Humidity, Moisture, Flow, Ultrasonic, Arduino, IoT-Blynk.		
References:	<ol style="list-style-type: none"> 1. S. Darshna <i>et al</i>, "Smart Irrigation System", IOSR Journal of Electronics and Communication Engineering, Vol.10, Issue.3, Ver. II, 2015, pp. 32 - 36. 2. Asaad Ahmed Mohammed ahmed Eltaieb and Zhang Jian Min, "Automatic water level control system", International Journal of Science and Research, Vol.4, Issue No.12, December 2015, pp. 1505 – 1509. 3. K. W. Migliaccio, <i>et al</i>, "Smartphone Apps for Irrigation Scheduling", Transactions of the American Society of Agricultural and Biological Engineers (ASABE), Vol. 59 (1), 2016, pp. 291 – 301. 		

	<ol style="list-style-type: none"> 4. Wafa Difallah, <i>et al</i>, "Intelligent Irrigation Management System", International Journal of Advanced Computer Science and Applications, Vol.9, No.9, 2018, pp. 429 – 433. 5. Prahlad Bhadani and Vasudha Vashisht, "Soil Moisture, Temperature and Humidity Measurement using Arduino", Proceedings of 9th International Conference (IEEE) on Cloud Computing, Data Science & Engineering (Confluence), 2019. 6. Muhammad Ayaz <i>et al</i>, "Internet-of-Things (IoT) - Based Smart Agriculture: Toward Making the Fields Talk", Special Section on New Technologies for Smart Farming 4.0: Research Challenges and Opportunities (IEEE Access), Vol.7, 2019, pp. 129551 – 129583. 	
	Authors: E.Bala Ganga, C.Harini, K.Kalai Selvi, S.Raja Gopal	
	Paper Title: Imperceptible and Secure Blind Image Watermarking using Spread Spectrum Scheme with Adaptive Embedding Strength	
167.	<p>Abstract: Watermarking is the way toward concealing advanced mystery data in a picture. The best in class watermark implanting plans with the assistance of spread range and quantization, experiences Host Signal Interference (HSI) and scaling assaults, separately. They fixed the inserting parameter, which is hard to consider both power and subtlety for all pictures. This paper takes care of the issues by proposing a visually impaired watermarking strategy, Spread Spectrum Scheme with Adaptive Embedding Strength (SSAES). Their adaptiveness originates from the proposed Adaptive Embedding Strategy (AEP), which expands the installing quality or quantization limit by ensuring the Peak Signal-to-Noise Ratio (PSNR) of the host picture. SSAES includes free of HSI by calculating in the earlier information about HSI. We present a thought called mistake limit to hypothetically dissect the exhibition of our proposed techniques in detail. Further, to improve the security of the watermarked picture, the DCT coefficients are exposed to stage based encryption. This will improve the security of a watermarked picture. The test results reliably exhibit that SSAES outflank the best in class strategies regarding intangibility, power, computational expense, and flexibility. Along these lines the proposed course of action of picture watermarking routs the drawbacks of host signal impedance security ambushes and scaling attack.</p> <p>Keywords: Versatile watermarking, differential quantization, picture watermarking, Spread Spectrum, picture encryption, Permutation, Attacks.</p> <p>References:</p> <ol style="list-style-type: none"> 1. M. J. Hwang, J. S. Lee, M. S. Lee, and H. G. Kang, "SVD-Based Adaptive QIM Watermarking on Stereo Audio Signals," IEEE Trans. Multimedia, vol. 20, no. 1, pp. 45-54, 2017. 2. Deanship of Scientific Research, Taibah University, Al-Madinah Al-Munawwarah(2018) in" An Efficient Chaotic Image Cryptosystem Based on Simultaneous Permutation and Diffusion Operations"IEEE Access ,vol 6,2016. 3. M. Asikuzzaman and M. R. Pickering, "An Impression of Digital Video Watermarking," IEEE Trans. Circuits Syst. Video Technol., vol. 28, no. 9, pp. 2131-2153, Sept. 2018. 4. M. Asikuzzaman, M. J. Alam, A. J. Lambert, and M. R. Pickering "vigorous dt cwt based dibr 3d video watermarking utilizing chrominance inserting" ieec trans sight and sound vol 18 no 9 pp 1733 1748 2016 5. M. Asikuzzaman, M. J. Alam, A. J. Lambert, and M. R. Pickering, "Imperceptible and robust blind video watermarking using chrominance embedding: A set of methodes in the DT CWT domain," IEEE Trans. Inf. Forensics Security, vol. 9, no. 9, pp. 1502–1517, Sept. 2014. 6. H. Sadreazami, M. O. Ahmad, and M. N. S. Swamy "multiplicative watermark decoder in contourlet space utilizing the typical reverse gaussian appropriation " IEEE Trans. Multimedia, vol. 18, no. 2, pp. 196-207, 2016. 7. A. Valizadeh and Z. J. Wang, "An Improved Multiplicative Spread Spectrum Embedding Scheme for Data Hiding," IEEE Trans. Inf. Forensics Security, vol. 7, no. 4, pp. 1127-1143, 2012. 8. I. J. Cox, J. Kilian, F. T. Leighton, and T. Shamoan, "Secure spread spectrum watermarking for multimedia," IEEE Trans. Image Processing, vol. 6, no. 12, pp. 1673-1687, 1997. 9. A. Valizadeh and Z. J. Wang, "Correlation-and-Bit-Aware Spread Spectrum Embedding for Data Hiding," IEEE Trans. Inf. Forensics Security, vol. 6, no. 2, pp. 267-282, 2011. 	960-964
168.	Authors: Sruthi S, Rasika Dhavse, Jignesh N. Sarvaiya	
	Paper Title: Quality Assessment of Fruits and Vegetables using Bio-impedance based Expert System	
	<p>Abstract: World Health Organization (WHO) recommends a daily intake of at least 400 grams of fruits and vegetables, to prevent diet related chronic diseases and micronutrient deficiencies. It is essential to ensure the quality of foods consumed by the population on a daily basis. Quality of fruits and vegetables is governed by nutritional level, appearance, flavor and climate. Quality assessment methods should be environment friendly and should also benefit both consumers and farmers by enhancing taste and increasing yield, respectively. Conventionally employed quality assessment methods like bio-chemical analysis, imaging etc. are destructive, inefficient and time consuming. Bio-tissues are made up of cells with selectively permeable cell membranes and this makes them equivalent to resistive-capacitive network. Such a network impedes an alternating current (AC) excitation signal applied to it. This bio-impedance (BI) is measured through LCR meters, impedance analysers and off-the-shelf chip based boards. In this work we have developed an accurate, smart and non destructive bio-impedance based quality evaluation technique. BI is measured as magnitude and phase for 7 days for each variety of fruit and vegetable followed by exhaustive frequency (5 kHz-200 kHz), ripening and rot analysis. BI magnitude increases as number of days advance i.e. with ripening and the phase undergoes considerable decrease with rotting. The system is made smart by incorporating an expert system. 178 samples of bio-impedance data are used to train the expert system and supervised classification is done through Random Forest classifier. Any fruit or vegetable can be classified as 'Good' or 'Bad' immediately and accurately with a maximum accuracy of 98.57%.</p> <p>Keywords: Bio-impedance, Expert System, Impedance Analysers, LCR Meter, Quality Assessment , Random Forest.</p>	965-970

References:

1. D. BK, N. Novas, J. Gazquez Parra, R. Garca, and F. Manzano Agugliaro, "Cleaner quality control system using bioimpedance methods: A review for fruits and vegetables," *Journal of Cleaner Production*, 11, 2015.
2. Q. Li, J. Wang, Z. Ye, Y. Ying, and Y. Li, "Detection of fruit quality based on bioimpedance using probe electrodes," *Proceedings of SPIE -The International Society for Optical Engineering*, 11, 2005.
3. A. Abo Bakr, L. Said, A. Madian, and A. Radwan, "Experimental comparison of integer/fractional-order electrical models of plant," *AEU International Journal of Electronics and Communications*, vol. 80, 06, 2017.
4. F. Simini and P. Bertemes-Filho, *Bioimpedance in Biomedical Applications and Research*. Springer International Publishing, 2018.
5. M. Islam, K. Wahid, and A. Dinh, "Assessment of ripening degree of avocado by electrical impedance spectroscopy and support vector machine," *Journal of Food Quality*, vol. 2018, pp. 1–9, 11, 2018.
6. T. Freeborn and B. Maundy, "Variability of cole-model bioimpedance parameters using magnitude-only measurements of apples from a two electrode configuration," *International Journal of Food Properties*, vol. 20, pp. 507–519, 12 2017.
7. T. Watanabe, Y. Ando, T. Orikasa, S. Kasai, and T. Shiina, "Electrical impedance estimation for apple fruit tissues during storage using colecole plots," *Journal of Food Engineering*, vol. 221, 10, 2017.
8. T. Watanabe, N. Nakamura, N. Ota, S. Tomita, Y. Ando, T. Orikasa, T. Shiina, and M. Nagata, "An electrical discrimination method for rot in fresh cut apples using colecole plots," *Journal of Food Measurement and Characterization*, 04, 2019.
9. M. Rehman, B. Zneid, M. Abdullah, and M. R. Arshad, "Assessment of quality of fruits using impedance spectroscopy," *International Journal of Food Science and Technology*, vol. 46, pp. 1303 – 1309, 05, 2011.
10. J. Gonzalez-Araiza, M. Ortiz-Snchez, M. Vargas-Luna, and J. Cabrera-Sixto, "Application of electrical bio-impedance for the evaluation of strawberry ripeness," *International Journal of Food Properties*, vol. 20, 07 2016.
11. R. Muoz-Huerta, A. Ortiz Melendez, R. Guevara-Gonzalez, I. Pacheco, G. Herrera-Ruiz, L. Contreras-Medina, J. Prado-Olivarez, and R. Ocampo-Velzquez, "An analysis of electrical impedance measurements applied for plant n status estimation in lettuce (lactuca sativa)," *Sensors (Basel, Switzerland)*, vol. 14, pp. 11 492–503, 07 2014.
12. K. Joshi, "Expert systems and applied artificial intelligence," <http://www.umsl.edu/~joshik/msis480/chapt11.htm>, Feb. 2001.
13. S. Grimnes and O. Martinsen, *Bioimpedance and Bioelectricity Basics*. Academic Press, 2008.
14. Rohde-Schwarz, "Hm8118 lcr bridge user manual." https://scdn.rohde-schwarz.com/ur/pws/dl/downloads/dl_common_library/dl_manuals/gb_1/h/hm8118_1/HM8118_UserManual_de_en_06.pdf, Aug.2016.
- 15.

Authors: Harihara Krishnan R, Aby John, A. Amali Asha, Venisha Leena Mary R
Paper Title: Security Enhancement in Cryptography for Mobile Device Outsourced in Cloud Computing

Abstract: Mobile devices often store data in cloud computing storage based on the increasing availability of the users. But security is the major issue in cloud computing. Sensitive information is stored and provided across internet to make sure that the data is protected with security. In this paper, the concept of data privacy is given more importance with regard to the major problem of reducing outsourced data usage. Mobile computing has memory storage and power resources as limitations. But cryptography is a concept which provides some sort of security enhancement that ensures the authentication and the availability of data integrity with confidentiality. Certain algorithms are used for ensuring an increase in security such as AES, DES, and Blowfish. Experimental results are computed and analyzed to level up the performance using cryptographic algorithms. Results are shown in order to assure resistance among the above techniques. Choosing an apt algorithm will quench the requirements of the future.

Keywords: AES (Advanced Encryption Standard), DES (Data Encryption Standard), Blowfish, Cryptography, Confidentiality, Integrity of data.

References:

1. M.Q. Zhou, R. Zhang N. Xie, W.N. Quian and A. Zhou, "Security and privacy in cloud computing: A Survey,"2010 sixth international conference on semantics knowledge and grids (SKP), PP.105-112, DOI-1-3 NOV 2010.
2. GunpreetKaur and Manish Mahajan (2013), Analyzing Data security for Cloud Computing using Cryptography Algorithms, *International Journal of Engineering Research and Applications*, VOL-3, 782,786.
3. H T Dinhetal, "A Survey of mobile cloud computing: Architecture, Applications and Approaches, *Wireless Communication Mobile Computing*, Vol.13 No. 18 PP.1587-1611, 2013.
4. DuttaP, Dutta R,Mukhopadhyay S,Fully Secure online /offline predicate and attribute-based encryption in:Information security practice and experience, Springer:2015. P.331-345.
5. DWang and P Wang," On the usability of two factor Authentication," inproc 10thInternational Conference Security Privacy Communication Network, September 24-26,2014, PP. 141-150.
6. M Sujithra and G Padmavathi, "Ensuring Security on Mobile Device Data with two phase RSA algorithms over the cloud storage", *Journal of Theoretical and Applied Information Technology*, VOL. 80, No.2, ISSN :1992-8645, October 2015.
7. W A Jansen, "Cloud Computing hooks: Security and Privacy issues in Cloud Computing proceedings of the 44th Hawaii International Conference on System Sciences, 2011.
8. J. Heiser and M. Nicolett, "Assessing the security risks of cloud computing," *Gartner Report*, 2009. [Online]. Available: <http://www.gartner.com/DisplayDocument?id=685308>.
9. M. Jensen, N. Gruschka, and R. Herkenhoner, "A " survey of attacks on web services," *Computer Science - Research and Development (CSR)*, Springer Berlin/Heidelberg, 2009.
10. S. Gajek, T. Jager, M. Manulis, and J. Schwenk, "A Browser-based Kerberos Authentication Scheme," in *Computer Security - ESORICS 2008, 13th European Symposium on Research in Computer Security*, Malaga, Spain, LNCS 5283. Springer, 2008, pp. 115–129.

971-975

169.

Authors: Mannat Jandial, Sanjeev Gupta
Paper Title: Soil Stabilization by using fly ash and Ferric Chloride

Abstract: The soil is stabilized with fly ash and ferric chloride mixtures in this research paper. The Serviceability of the pavement is very tractable to the soil sub-grade properties. For that reason, a weaker sub-grade can be improved by using the most effective stabilization method. Based on the literature review,

976-981

170.

stabilization with fly ash activated sub grade has been found to be an effective option for improvement of soil properties. Stabilization of the soil is mostly done in soft soils such as organic soil, clayey peat, silt. Some of the wastes used are fly ash, marble dust, foundry sand, rice ash and so on. These materials not only provide an alternative to the use of conventional materials but also help control environmental pollution. In many places, the waste is dumped into the open air, which can be very problematic for the people in the area and the workers working in these areas. Using these waste materials not only reduces pollution but also reduces human credibility on natural resources, leading to a more sustainable process of construction. It was found from the literature that the optimum dose of fly ash and ferric chloride revealed essential enhancement in strength and durability characteristics and declination in the swelling and plasticity properties of the soil. Based on that result, it is suggested that a mixture of fly ash and ferric chloride should be take into consideration a workable option for the stabilization of broad subgrades.

Keywords:

References:

1. Bell, F.G, Engineering treatment of expansive soils. Chapman and Hall, London, 1993.
2. U.S. Army, Soil stabilization for pavement (Em-1110 – 3 – 137). United States Army Corps of Engineers, Washington, D.C, 1984.
3. Mowafy, Y.M., Baurer, G.R. and Sakeh, F.H, “Treatment of expansive soils: A laboratory study, “Transportation Research Record, No. 1032, Transportation Research Board, 1985, 34-39.
4. Chandrasekhar B.P., Prasad Rao G.V.R , Ramana Murthy V. and. KRISHNA P.H. (1999) “Relative performance of lime and calcium chloride on properties of expansive soils for pavement sub grades” journal of I.G.C. pp-279-282
5. Gandhi N.S.V.V.S.J., Kumar B.R Phani and Kumar J.V. P (2001) “Some engineering characteristics of fly ash-treated expansive soils” journal of I.G.C. pp- 157-161.
6. Nramesh H., Mohan S. and Siva Pullaiah P.V.S. (1998) “Geotechnical properties of Maddunur fly ash with lime” journal of I.G.C. pp-247-249.
7. Pandian N.S., Krishna K.C. and Bb. Leelavatamma (2002) “Effect of fly ash on the C.B.R. behavior of soils” journal of I.G.C. pp.183-186.
8. Pandian N.S., Sridharan A. and SRINIVAS S. (1998) “Use of fly ash to improve the C.B.R. of soils” journal of I.G.C. pp-261-264.
9. Ramakrishnan A.K., Natarajan K. and Chandran R. K. (2001) “Stabilization of Annamalai Nagar clay with lime-fly ash” journal of I.G.C. pp-251- 254.
10. Shebaa and Gayatri V. (sept-oct.-2003) “Factor influencing the strength of cement, fly ash base courses” journal of transportation engineering ASCE. pp. 538- 547.

Authors: Saurav Kumar Verma, C. Vairavel

Paper Title: Arduino Powered GPS Motor Vehicle

171.

Abstract: This whole study helps us in implementing and making an obstacle avoidance car. This robot is a mobile platform robot that navigates through each and every designated waypoints while trying to avoid any obstruction which comes in the way of the vehicle. We can move the vehicle from one point to another with the help of designated waypoints. This car is based on commonly used RC cars and are made with some modifications and advancements. We can do potential future enhancements by adding a SD card for logging GPS track. We can also add a camera for taking photos and videos. The arduino board acts as a controller which help us to control the speed and change the speed. It also controls the steering of the car to achieve automatic obstacle avoidance. The vehicle’s speed is controlled with the help of pulse wave modulation (PWM) provided to us by the Motor shield. GPS helps us in providing global coordinates of the current location that where the vehicle is present in real time and it also tell us that where that vehicle is heading towards. With the combination of hardware and software we can easily navigate the vehicle and guide it towards right direction.

982-986

Keywords : Arduino Car, obstacle avoidance car, Ultrasonic sensors

References:

1. S.Madhuri, K.Bhuvana Jyothi, Ch.Indraja, Swarna Bai Arniker, K.Sita Rama Rao, “GPS based passive vechile tracking System”.
2. Yu-Huei Cheng, Member, IAENG, Dan-Feng Wu, Xin-Yue Wu, and Dai-Hua Zhang, “Implementation of an Arduino Obstacle Avoidance Car for Automatic Drawing a Path Map”.
3. Devyani Bajaj, Neelesh Gupta, “GPS Based Automatic Vehicle Tracking Using RFID”.
4. R.Ramani, S.Valarmathy, Dr. N.SuthanthiraVanitha, S.Selvaraju, M.Thiruppathi, R.Thangam, “Vehicle Tracking and Locking System Based on GSM and GPS

172.

Authors: Ravi Pandit, Saumya Chaturvedi

Paper Title: Mobile Learning: Detrimental or Beneficial?

Abstract: Mobile Learning also known as mLearning, is a new generation of learning where content which users wants to learn is accessible and available on mobile devices like smart phone and tablets. With the evolution of “world in the pocket” learning becomes much easier and one can start learning on the go. This paper illustrates how mLearning could be a better new way to learn and to interact with the learning content provided and how mLearning is proving to be a better alternative to traditional learning. Learning through traditional methods is not helping students to learn and gain new knowledge wherever and whenever they want and also it’s not that effective. It is also researched that not all mLearning applications are helpful for the students or learners to learn whatever they want, only apps with interactive and user-friendly user interface were found helpful. That’s why mobile learning applications are made with user-friendly user interface. Some practical strategies and methods of implementation of mLearning approach despite of its limitations and

986-989

	<p>challenges were recommended in this paper as well.</p> <p>Keywords: Mobile Learning, affect, interaction, research, traditional learning.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Hashemi, Masoud, Azizinezhad, Masoud, Najafi, Vahid, Nesari, Ali. (2011). "What is Mobile Learning? Challenges and Capabilities". Procedia - Social and Behavioral Sciences. 30. 2477-2481. 10.1016/j.sbspro.2011.10.483. 2. Abha Vishwakarma (Kerela Samajam Model School, India). "Benefits and Challenges of Mobile Learning in Education". DOI: 10.4018/978-1-4666-6343-5.ch002. 2015. (https://www.igi-global.com/chapter/benefits-and-challenges-of-mobile-learning-in-education/115466). 3. Easy-LMS. "What is m-learning?".(Available at: https://www.easy-lms.com/knowledge-center/lms-knowledge-center/mobile-learning/item10388). 4. Seth Puri. (Available at: https://trainingindustry.com/articles/e-learning/5-advantages-of-e-learning/) 5. W. U. Hassan, M. T. Nawaz, T. H. Syed, M. I. Arfeen, A. Naseem, S. Noor. "Investigating Students' Behavioral Intention Towards Adoption of Mobile Learning in Higher Education Institutions of Pakistan". Vol. 20 No. III-2015 6. Gianluca Merlo. "MOTILL: Mobile Technologies in Lifelong Learning–Best Practices". ISBN: 978-88-903133-4-9. (Available also online: www.motill.eu). 8. Ansari, Mohd. (2017). An Investigation of Effectiveness of Mobile Learning Apps in Higher Education in India. International Journal of Information Studies and Libraries. 2. 		
	Authors:	Mohammad Nazim, Mohd. Alam, Sitesh Kumar Singh	
	Paper Title:	Parking Space Efficiency Monitoring Near Metro Stations in Noida	
173.	<p>Abstract: This Study was based on data collection and calculation of the parking statistics such as occupancy, accumulation, parking volume, duration of parking, parking load. The study was performed in Noida of Gautam Budh Nagar which includes three parking's. The two were for NA staff parking (two and four wheelers), and third for auto rickshaw stands. The parking data was collected by license plate method for five days and statically analyzed for off street parking. After the analysis it was found that the overall average parking efficiency of comes out to be 68.75 %, 65.22% and 69.22% for parking- 1, parking- 2 and parking- 3 (auto stand parking) respectively. It was found that efficiencies for all the parking were more than 65%. This concluded that these parking can be considered as satisfactory parking.</p> <p>Keywords : Occupancy, Accumulation, Parking Volume, Parking Load, Efficiency</p> <p>References:</p> <ol style="list-style-type: none"> 1. Eduardo B. (2010) Parking Problem at UC Campus: 12th WCTR, July 11-15, 2010, Lisbon, Portugal 2. Indrajit R. (2015) Scenario of On-street parking demand A Case Study of Kolkata city, India. Research Journal of Recent Science Vol V, 2015 3. Juliane Stark et al. (2008) Off-street Parking Regulations for Shopping Facilities Journal of Urban and Development (ASCE) Vol 135, 173-179 4. Kolhar (2012) Off-street Parking Management Plan of Dharwad city, Karnataka, India. JERS/Vol III April 2012 5. L.B. Zala (2012) Parking Evaluation: A Case Study of Amul Dairy road Indian Journal of Research Vol 1 issue 5, 177-180 6. Mahak D. et al. (2017) A case study: Growing parking issues and effective parking management strategies International Journal of Scientific and Engineering Research Vol VI, January 2017 7. Olugbenga et al. (2015) Assessment of Parking Space Demand in University of Ibadan, Nigeria. International Journal of Scientific and Engineering Research Vol VI, January 2015 		990-998
174.	Authors:	Omar Ahmed, Sangeeta Gupta, Mohammed Hasibuddin	
	Paper Title:	Truth Discovery in Big Data Social Media Sensing Applications	
	<p>Abstract: detection of truthful information amid data provided by online social media platforms (e.g., Twitter, Facebook, Instagram) is a critical task in the trend of big data. Truth Discovery is nothing but the extraction of true information or facts from unwanted and raw data, which has become a difficult task nowadays in today's day and age due to the rampant spread of rumors and false information. Before posting anything on the social media platform, people do not consider fact-checking and the source authenticity and frantically spread them by re-posting them which has made the detection of truthful claims more difficult than ever. So, this problem needs to be addressed soon since the impact of false information and misunderstanding can be very powerful and misleading. This mission, truth discovery, is targeted at establishing the authenticity of the sources and therefore the truthfulness of the statements that they create without knowing whether it is true or not. We propose a Big Data Truth Discovery Scheme (BDTD) to overcome the major problems. We have three major problems, the main one being "False information spread" where a large number of sources lead to false or fake statements, making it difficult to distinguish true statements, now this problem is solved by our scheme by studying the various behaviors of sources. On Twitter for example rumormongering is common. The second problem is "lack of claims" where most outlets contribute only a tiny small number of claims, giving very few pieces of evidence and making it not sufficient to analyze the trustworthiness of such sources, this problem is addressed by our scheme where it uses an algorithm that evaluates the claim's truthfulness and historic contributions of the source regarding the claim. Thirdly the scalability challenge, due to the clustered design of their existing truth discovery algorithms, many existing approaches don't apply to Big-scale social media sensing cases so this challenge is managed by our scheme by making use of frameworks HTCondor and Work Queue. This scheme computes both the reliability of the sources and, ultimately, the legitimacy of statements using a novel approach. A distributed structure is also developed for the implementation of the proposed scheme by making use of the Work Queue</p>		999-1004

(platform) in the HTCCondor method (maybe distributed). Findings of the test on a real-world dataset indicate that the BDTD system greatly outperforms the existing methods of Discovery of Truth both in terms of performance and efficiency.

Keywords: Big Data, Rumors, Scalable, Social Media, Truth Discovery, Twitter.

References:

1. [1] S. Bhuta and U. Doshi. A review of techniques for sentiment analysis of twitter data. In Proc. Int Issues and Challenges in Intelligent Computing Techniques (ICICT) Conf, pages 583–591, Feb. 2014.
2. [2] X. L. Dong, L. Berti-Equille, and D. Srivastava. Integrating conflicting data: the role of source dependence. In Proceedings of the VLDB Endowment, pages 550–561, 2009.
3. [3] X. X. et al. Towards confidence in the truth: A bootstrapping based truth discovery approach. In Proceedings of the 22th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining - KDD '16, 2016.
4. [4] D. Thain and C. Moretti. Abstractions for cloud computing with condor. 2010.

Authors: Anusha Kailas Kogta.

Paper Title: Cross Platform Application for Canteen Food Ordering System

Abstract: Presently practically all Canteen across different colleges follow an extremely essential paper based or token-based framework to take orders from their staff/students. To make the framework increasingly productive and blunder free Canteen Automation System with cross stage application is proposed. The proposed application can be utilized by staff/students to put orders from anyplace independent of the stage on their gadgets. It empowers the clients to enlist on the web, see and select food things from the accessible menu and request food by simply choosing the food that the client needs to have utilizing the application in simple manner. The backend database will be refreshed subsequent to choosing the ideal food item from the menu card and it will be shown straightforwardly on the dashboard screen. The user will have a username and a secret key, by utilizing which he/she can sign in to the framework. Installments for the requests put should be possible online through the application. When the food is prepared the users will get a warning about the equivalent. The novel application decreases time utilization, administrative work, and human blunders as it is completely automatize. The online food requesting application sets up a food menu on the web and clients can undoubtedly put in the request according to their desire. Likewise with a food menu, clients can without much of a stretch track the requests. This application additionally gives a criticism framework where client can rate the food things. Additionally, the proposed application can suggest food, in view of the appraisals given by the client, the staff will be educated for the enhancements alongside the quality. The installment can be made on the web or pay-on-conveyance framework. For more made sure about requesting separate records are kept up for every client by giving them an ID and a secret key.

Keywords: Cross-platform application; Flutter; Android app, AES.

References:

1. Android Based Canteen Automation" published in the year 2017 by "Kalyani Dahake and Prof. A.D.Bhoi"
2. Cloud Based Canteen Management System" published in the year 2016 by "Tazeen Khan and Daniel Yunus"
3. Smart Connected Campus" published in the year 2017 by "Thota Narendrakumar and Anju S. Pillai " :
4. Design And Implementation Of Android Base Mobile App For An Institute " published in the year 2016
5. by "Reetesh V. Golhar1, Prasann A. Vyawahare and Pavan H. Borghare"
6. Cross-platform mobile development approaches" published in the year 2014 by "Salma Charkaoui ; Zakaria Adraoui"
7. Cross-platform development for an online food delivery application" published in the year 2014 by "Faisal Bin Al Abid ; A. N. M. Rezaul Karim"
8. Designing and Developing A PDA Food Ordering System Using Interaction Design Approach published in the year 2009 by "Lim Tek Yong and Alexander Johnson"
9. Automated Food Ordering System with Interactive User Interface Approach " published in the year 2010 by "YongChai Tan and KienLoong Lee"
10. Kirti Bhandge, Tejas Shinde, Dheeraj Ingale, Neeraj Solanki, Reshma Totare,"A Proposed System for Touchpad Based Food Ordering System Using Android Application", International Journal of Advanced Research in Computer Science Technology (IJARCST 2015).
11. Varsha Chavan, Priya Jadhav,Snehal Korade,Priyanka Teli, "Implementing Customizable Online Food Ordering System Using Web Based Application", International Journal of Innovative Science, Engineering Technology(IJISSET) 2015.
12. Resham Shinde, Priyanka Thakare, Neha Dhonne, Sushmita Sarkar, "Design and Implementation of Digital dining in Restaurants using Android", International Journal of Advance Research in Computer Science and Management Studies 2014.
13. Ashutosh Bhargave, Niranjana Jadhav, Apurva Joshi, Prachi Oke, S. R Lahane,"Digital Ordering System for Restaurant Using Android", International Journal of Scientific and Research Publications 2013.
14. Khairunnisa K., Ayob J., Mohd. Helmy A. Wahab, M. Erdi Ayob, M. Izwan Ayob, M. Afif Ayob, "The Application of Wireless Food Ordering System" MASAUM Journal of Computing 2009.
15. Noor Azah Samsudin, Shamsul Kamal Ahmad Khalid, Mohd Fikry Akmal Mohd Kohar, Zulkifli Senin, Mohd Nor Ikhazan," A customizable wireless food ordering system with real time customer feedback", IEEE Symposium on Wireless Technology and Applications(ISWTA) 2011.
16. Serhat Murat Alagoza, Haluk Hekimoglu," A study on tam: analysis of customer attitudes in online food ordering system", Elsevier Ltd. 2012.
17. [16]. Patel Krishna, Patel Palak, Raj Nirali, Patel Lalit," Automated Food Ordering System", International Journal of Engineering Research and Development (IJERD) 2015.
18. [17]. Mayur D. Jakhete, Piyush C. Mankar," Implementation of Smart Restaurant with e-menu Card," International Journal of Computer Applications 2015 of Smart Restaurant with e-menu Card, "International Journal of Computer Applications 2015.

175.

1005-1010

176. Authors: G Kishan, B.V.S. Rao

Paper Title: Mathematical Modeling and Analysis of Hoop Stress in Hydroforming Deepdrawing of n-sided Polygonal Cup

	<p>Abstract: The main objective of this paper presents the analytical evaluation and mathematical modelling of hoop stresses of aluminium 7075 alloys in hydro forming deep drawing of n-sided polygonal cup. It is very important to find the magnitude of these stresses generated within the flange region during the deep drawing process for various n-sided polygonal cups. In the flange region two types of stresses will be generated. When is radial tensile stress, it is taking place radially outward direction from the side of the cup to outer side of the blank material. and other is hoop stress it is compressive. It is perpendicular to the radial lines drawn from the job axis to the side of the blank. It is also parallel or tangential to the blank circumference. These two stresses will be generated within the blank material by the application of punch force.. As compared to the conventional deepdrawing process, hydroforming is very convenient. uniform deformation of the blank taking place throughout out the process.</p> <p>Keywords: Hoopstresses,Hydroformdeepdrawing,n-sided polygonal cup</p> <p>References:</p> <ol style="list-style-type: none"> 1. Faku S et al (1958)"Deep Drawing of Cylindrical Shell according to the so-called hydroforming method" Japan Aerospace exploitation agency report No:333,24(4),pp:77-98. 2. Yossifon.S et al (1985)," Rapture instability in hydroforming process" International Journal of Mechanical Sciences,Volume.27,Issue.9, pp:559-570. 3. Yossifon et al (1988), "On the permissible fluid pressure path in hydroforming deep drawing process analysis of failures and experiments" Journal of Engineering for Industry, 110(2), pp:146-152. 4. Zhang et al(1998), " Development of hydro-mechanical deepdrawing" Journal of Material Processing Technology, Volume:83,Issue:1-3,1 November 1998, pp:14-25. 5. Thiruvarehelvan.S et al (1999) "Note on hydroforming with constant fluid pressure" Journal of Material Processing Technology, Volume:88,Issue:1, pp:51-56. 6. Thiruvarehelvan.S et al (2003) " Hydraulic-pressure enhanced computer drawing process and appraisal " Journal of Material Processing Technology, Volume:140,Issue:1-3 SPEC, pp:70-75. 7. Lang. L et al (2004), " Investigation into hydraulic deepdrawing assisted by radial pressure: Part-I experimental observation of the forming process of aluminium alloy, Journal of Materials Processing Technology, Volume:148, Issue:1,pp:119-131. 8. Lang. L et al (2005), " Investigation into hydraulic deepdrawing assisted by radial pressure: Part-II Numerical analysis of drawing mechanism and process parameters, Journal of Materials Processing Technology, Volume:166, Issue:11,pp:150-161. 9. Nader Abedrabbo et al(2005), " Wrinkling control in aluminium sheet hydroforming" International Journal of mechanical Sciences,Science Direct,Volume:47,pp:333-358. 	1011-1014				
177.	<table border="1"> <tr> <td>Authors:</td> <td>S.Thulasee Krishna, K. Nagendra Rao, P.Poornima</td> </tr> <tr> <td>Paper Title:</td> <td>Enhanced Traffic Management System using Artificial Intelligent Congestion Control</td> </tr> </table> <p>Abstract: The smart city proposed by government is providing better infrastructure with possible automated device. Every smart city proposes to provide smart transport through automated traffic management .The peak hours face the congestion road and many traffic irregularities. The congested road aids in poor Travel experience, environmental pollution and health hazards by vehicular fuel. The solution to aforesaid issues leads to traffic Automation in urban communities. To implement the traffic automation need access to real time traffic congestion information, best possible route and alternate strategy with online traffic information applicable to specific traffic stream. An more suitable site visitors manipulate and MF has been mentioned to finish short information transmission and their corresponding motion performed via artificial intelligence. The VANET scenario, congestion manage algorithm executed through mobile agent controller uniformly organizes the traffic glide by way of heading off the congestion at the smart visitors zone ,The law-enforcement bodies ,the fire opponents and the clinical and/or paramedical teams consciousness on elevated quantity of crime in addition to lifestyles losses through site visitors irregularities. The benefits of adopting the internet of things(iot)provide a new prospect for intelligent site visitors improvement.</p> <p>Keywords: Intelligent traffic systems, artificial intelligent system, VANET.</p> <p>References:</p> <ol style="list-style-type: none"> 1. D. Singh, C. Vishnu and C. K. Mohan, "Visual Big Data Analytics for Traffic Monitoring in Smart City," 2016 15th IEEE International Conference on Machine Learning and Applications (ICMLA), Anaheim, CA, 2016, pp. 886- 891. [2] R. A. Alshawish, S. A. M. Alfagih and M. S. Musbah, "Big data applications in smart cities," 2016 International Conference on Engineering & MIS (ICEMIS), Agadir, 2016, pp. 1-7. 2. http://www.akri.org/ai/defs.htm 3. http://www.dacs.dtic.mil/techs/neural/neural_ToC.html 4. http://www.aucklandmotorways.co.nz/rampsignalling/rampsignalling.html 5. Downs,A.(1962).“The regulation of height hour freeway congestion”. Traffic Quarterly 16(3):393–409. 6. http://dal.hnonline.sk/c1-24927730-perspektivy-senzorovychsieti-v-logistike 	Authors:	S.Thulasee Krishna, K. Nagendra Rao, P.Poornima	Paper Title:	Enhanced Traffic Management System using Artificial Intelligent Congestion Control	1015-1018
Authors:	S.Thulasee Krishna, K. Nagendra Rao, P.Poornima					
Paper Title:	Enhanced Traffic Management System using Artificial Intelligent Congestion Control					
178.	<table border="1"> <tr> <td>Authors:</td> <td>Saptarsika Das, Anirban Bhattacharya, Santanu Mondal, Partha Pratim Sarkar</td> </tr> <tr> <td>Paper Title:</td> <td>Development of Method of Moment Based Programme to Analyze Cross Dipole Frequency Selective Surface and its Verification with Measured Results</td> </tr> </table> <p>Abstract: Theoretical analysis of frequency selective surface comprising of cross dipole elements has been presented in this paper. Algorithm for theoretical analysis based on method of moment has been implemented by MATLAB programming. Theoretical, simulated and experimental results are compared. Simulated result is obtained by ANSOFT designer version 2.2 software. Experimental result is obtained by standard microwave test bench. Good parity in the results is observed. The presented FSS Structure has relevance in the field of mobile</p>	Authors:	Saptarsika Das, Anirban Bhattacharya, Santanu Mondal, Partha Pratim Sarkar	Paper Title:	Development of Method of Moment Based Programme to Analyze Cross Dipole Frequency Selective Surface and its Verification with Measured Results	1019-1023
Authors:	Saptarsika Das, Anirban Bhattacharya, Santanu Mondal, Partha Pratim Sarkar					
Paper Title:	Development of Method of Moment Based Programme to Analyze Cross Dipole Frequency Selective Surface and its Verification with Measured Results					

and satellite communication.

Keywords: Cross Dipole, Frequency Selective Surface, Method Of Moment.

References:

1. B. A. Munk, Frequency-Selective Surfaces: Theory and Design. New York: Wiley,2005,Ch.1
2. Te-Kao Wu, Encyclopedia of RF and microwave engineering. New York: Wiley, 2000,Ch.1
3. P.Samaddar, S.Nandi, D.C.Sarkar and P.P.Sarkar, "Prediction of Resonant Frequency of a Circular Patch Frequency Selective Surface Using Artificial Neural Network", Indian Journal of Physics, vol. 88, No.4, pp. 397-403, 2014.
4. R.Mittra, C.H.Chan and T.Cwik, "Techniques for Analyzing Frequency Selective Surface – A Review", Proc. IEEE, vol. 76, no.12, pp. 1593-1615, 1988.
5. A.Fallahi, A.Yahaghi,H.Abiri, M.Shahabadi and C.Hafner, "Large Overlapping Subdomain Method of Moments for the Analysis of FSS", IEEE Transactions on Microwave Theory and Techniques, vol.58, no.8,2010
6. P.P.Sarkar, D.C.Sarkar, S.Sarkar and S.K.Chowdhury, "Experimental investigation of frequency selective property of an array of dual tuned printed dipoles", Microwave Opt. Tech. Lett., vol.31, no., pp. 189-190, 2001.
7. H.Zhou, S.B.Qu, B.Q.Lim, J.Q.Zhang, C.Gu, H.Ma, Z.Xu, P.Bai and W.D.Peng, "Dual Band Frequency Selective Surface Based on Circular Aperture- Coupled Patches", Microwave and Optical Technology Letters, vol.53, no.8, pp. 1784-1786, 2011.
8. N.Mukherjee, D.Biswas, M.Pain, D.Sarkar and P.P.Sarkar, "Effect of Increment of Slit on Compactness of Frequency Selective Surface", International Journal of Scientific and Engineering Research, vol.8, no.3, 2017.
9. D.T.M.Rosales, A.E.Martynyuk, J.I.M.Lopez and J.R.Cuevas, "Frequency Selective Surface Based on Ring Slots Loaded with Monolithically Integrated Capacitors", IET Microwaves, Antennas and Propagation, vol.6, no.3, pp. 245-250, 2012.
10. T.Hussain, C.Yang, Q.Cao and I.Majid, "Electromagnetic Shielding for WLAN Using Modified-Hilbert Fractals", in Conf.Rec.2016 Computational Electromagnetics (ICCEM), IEEE International Conference, pp.132-134.
11. Y.Lui, X.Gao and X.Hou, "A Design of Frequency Selective Surface on Curved Band-Pass Radome", Advanced Material Research, ISSN: 1662-8985, vol.337, no., pp. 616-620, 2011.
12. M.Han, G.Q.Zhao, M.He, P.Zheng, Z.F.Li, C.Jin and H.J.Sun, "Design and Performance of a W-Band MMW/IR Compound Cassegrain Antenna System with a Hyperbolic Sub-Reflector Based on FSS", Progress in Electromagnetics Research C, vol.59, no., pp.167-174, 2015.
13. F.C.Huang, C.N.Chiu, T.L.Wu and Y.P.Chiou, "A Circular Ring Miniaturized Element Metasurface with Many Good Features for Frequency Selective Shielding Applications", IEEE Trans. on Electromagnetic Compatibility, vol.57, no.3, pp.365-374, 2015.
14. Nurnihar Begam, Snehasish Saha, Sushanta Sarkar, D.C.Sarkar, P.P.Sarkar, "Design of Compact Patch Type Curved Frequency Selective Surface", Internatinal Journal of RF and Microwave Computer-Aided Engineering, Accessed -April 2019.
15. T.Deng, Z.W.Li and Z.N.Chen, "Ultra thin broadband absorber using frequency dispersive magnetic materials", IEEE Trans. On Antennas and Propagation, vol. 65, no., pp. 5886-5894, 2017.
16. F.Costa and A.Monorchio, "A Frequency Selective Radome with Wideband Absorbing Properties", IEEE Trans. On Antennas and Propagation, vol.60,no.6, pp.2740-2747,2012.
17. J.P.Turpin, P.E.Sieber and D.H.Werner, "Absorbing Frequency Selective Surface Ground Plane for Reduced- Radar Cross Section of Conformal Antennas", in 2013 Proceedings of Antennas and Propagation Symposium,Orlando,United States, pp.464-465.
18. A.Lazaro, J.Lorenzo,R.Villarino and D.Girbau, "Back Scatter Transponder Based on Frequency Selective Surface FRCM Radar Applications", Radio Engineering,vol.23,no.2,pp.632-641,2014.

179.	Authors:	Prasanthi Gottumukkala, G. Srinivasa Rao	
	Paper Title:	Real and Accurate Clouds Based Fraud Detection Implementation System by using Deep and Machine Learning Techniques	
	Abstract:	From the last decades deep and machine learning techniques achieves prominent outcomes in various areas like data analytics, big data processing and cloud classifications. Which makes the real time intelligent models, in this investigation proposes a cloud based fraud detection system by using Fully Convolution Neural Networks (FCNN). Along this deep learning, Gradient Boosting Machine Learning (GBML) technology is incorporated, it permits the real time frauds classification and regression on clouds. Our proposed methodology FCNN and GBML compete with existing models in terms of accuracy, recall, true positive rate and precision.	1024-1032
	Keywords:	Cloud frauds, GBML, FCNN, credit card frauds.	
	References:	<ol style="list-style-type: none"> 1. J.P.Morgan. "Payments Fraud and Control Survey", PNC Financial Services Group, 2018. 2. Boston Consulting Group. (2017). Global Payments 2017 – Deepening The Customer Relationship. 3. Bose, Indranil, and Radha K. Mahapatra. "Business data mining—a machine learning perspective." Information and management 39.3 (2001): 211-225. 4. TUNG, Hui-Hsuan, CHENG, Chiao-Chun, CHEN, Yu-Ying, et al. Binary Classification and Data Analysis for Modeling Calendar Anomalies in Financial Markets. In: Cloud Computing and Big Data (CCBD), 2016 7th International Conference on. IEEE, (2016). p. 116-121. 5. Jacomo Corbo, Carlo Giovine, and Chris Wigley(2017, April). Applying analytics in financial institutions fight against fraud. McKinsey Analytics. Retrieved from https://www.mckinsey.com. 6. Vapnik, V.: Statistical learning theory. Wiley, New York.(1998) 7. I. Goodfellow, Y. Bengio, A. Courville.: Deep learning, Cambridge, Massachusetts, The MIT Press, (2016) 8. Phyu, Thair Nu. "Survey of classification techniques in data mining." Proceedings of the International MultiConference of Engineers and Computer Scientists. Vol. 1. (2009). 9. Bolton, Richard J., and David J. Hand. "Statistical fraud detection: A review." Statistical science (2002): 235-249. 10. Zhou, Xun, et al. "A state of the art survey of data mining-based fraud detection and credit scoring." MATEC Web of Conferences. Vol. 189. EDP Sciences, 2018. 11. John A. Stankovic. :Misconceptions about real-time computing. IEEE Computer, 21(10), 10-19 (1988). 12. S. Benson Edwin Raj, A. Annie Portia.: Analysis on Credit Card Fraud Detection Methods. In: International Conference on Computer, Communication and Electrical Technology – ICCET2011, 18th & 19th March, (2011) 13. Martin, James. Programming Real-time Computer Systems. Englewood Cliffs, NJ: Prentice-Hall Inc. p. 4. ISBN 0-13-730507-9. (1965) 14. Masoumeh Zareapoor, Seeja.K.R, and M.Afshar.Alam.: Analysis of Credit Card Fraud Detection Techniques: based on Certain 	

Design Criteria. In: International Journal of Computer Applications (0975 – 8887) Volume 52– No.3, August (2012)

15. Bhattacharyya, Siddhartha, et al. "Data mining for credit card fraud: A comparative study." *Decision Support Systems* 50.3 (2011).
16. Ghosh, Sushmito, and Douglas L. Reilly. "Credit card fraud detection with a neural-network." *System Sciences*, 1994. Proceedings of the Twenty-Seventh Hawaii International Conference on. Vol. 3. IEEE, (1994).
17. Bakar, Nor Mazlina Abu, and Izah Mohd Tahir. "Applying multiple linear regression and neural network to predict bank performance." *International Business Research* 2.4 (2009): 176.
18. Landi, Alberto, et al. "Artificial neural networks for nonlinear regression and classification." *Intelligent Systems Design and Applications (ISDA)*, 2010 10th International Conference on. IEEE, (2010).
19. Aleskerov, Emin, Bernd Freisleben, and Bharat Rao: Cardwatch: A neural network based database mining system for credit card fraud detection. *Computational Intelligence for Financial Engineering (CIFEr)*, 1997., Proceedings of the IEEE/IAFE 1997. IEEE, 1997.
20. Dorronsoró, Jose R., et al. : Neural fraud detection in credit card operations. *IEEE transactions on neural networks* 8.4 (1997).
21. Seeja, K. R., and Masoumeh Zareapoor. "FraudMiner: A novel credit card fraud detection model based on frequent itemset mining." *The Scientific World Journal* 2014 (2014).
22. Hassibi, Khosrow. "Detecting payment card fraud with neural networks." *World Scientific Book Chapters* (2000): 141-157.
23. ALTMAN, Edward I, MARCO, Giancarlo, et VARETTO, Franco: Corporate distress diagnosis: Comparisons using linear discriminant analysis and neural networks (the Italian experience). *Journal of banking & finance*, vol. 18, no 3, p. 505-529.(1994)
24. D.W. Hosmer, S. Lemeshow: *Applied Logistic Regression*, 2nd Ed, Wiley- Interscience, (2000).
25. GOH, King-Shy, CHANG, Edward, et CHENG, Kwang-Ting.: SVM binary classifier ensembles for image classification. In : Proceedings of the tenth international conference on Information and knowledge management. ACM. p. 395-402.(2001)

Authors: K Murali Gopal, Pragnyaban Mishra, R. P. Singh
Paper Title: Enhancement of Classification using FPF-ANN for Big data Analysis in Distributed Environment

Abstract: The development of massive amount of information from any source of group at any time, wherever and from any device which is termed as Big Data. The age group of big data becomes a dangerous challenge to grip, take out and access these data is short length of time. The detection of everyday itemsets is an significant issue of data mining which helps in engendering the qualitative information for the business insight and helps for the verdict makers. For the extracting the necessary itemsets from the big data a variety of big data logical techniques has been evolved such as relationship rule mining, genetic algorithm, mechanism learning, FP-growth algorithm etc. In this paper we suggest FP-ANN algorithm to promote the FP enlargement calculation with neural networks to maintain the feed forward approach. The recommend algorithm uses the Twitter social dataset for the collection of frequent itemsets and the proportional analysis of this approach is done using the different performance measuring parameters such as Precision, Recall, F-measure, Time complexity, Computation cost and time. The simulation of proposed work is done using the JDK, JavaBeans, and Wamp server software. The experimental results of projected algorithm gives better results in deference of time difficulty, computation cost and time also. It also gives enhanced results for the Precision, recall and F-measure.

Keywords: Big Data Analytic, Genetic Algorithm, FP-Growth, Association Rule, Neural Network, Precision, Recall, F-measure.

References:

1. K.Arun and Dr.L.Jabasheela, "Big Data: Review, Classification and Analysis Survey", *International Journal of Innovative Research in Information Security (IJIRIS)* ISSN: 2349-7017(O) Volume 1 Issue 3 (September 2014).
2. SHERIN A et al., "SURVEY ON BIG DATA MINING PLATFORMS, ALGORITHMS AND CHALLENGES", *International Journal of Computer Science & Engineering Technology (IJCSSET)* Vol. 5 No. 09 Sep 2014 ISSN : 2229-3345.
3. Sanjay Rathee and ArtiKashyap, "Adaptive-Miner: an efficient distributed association rule mining algorithm on Spark", <https://doi.org/10.1186/s40537-018-0112-0> *Big Data* (2018).
4. Yassir ROCHD and Imad HAFIDI "An Enhanced Apriori Algorithm Using Hybrid Data Layout Based on Hadoop for Big Data Processing" *IJCSNS International Journal of Computer Science and Network Security*, VOL.18 No.6, June 2018.
5. Dongmei Ai et al., "Association rule mining algorithms on high-dimensional datasets" *Artificial Life and Robotics* (2018) 23:420–427.
6. Francisco Padillo et al "Evaluating associative classification algorithms for Big Data." *Big Data Analytics* (2019) <https://doi.org/10.1186/s41044-018-0039-7>.
7. Dinesh J. Prajapati et al., "Interesting Association Rule Mining with Consistent and Inconsistent Rule Detection from Big Sales Data in Distributed Environment" *Future Computing and Informatics Journal* (2017) <http://www.journals.elsevier.com/future-computing-and-informatics-journal>.
8. Subaira. A. S, Gayathri. R, Sindhuja a. N, " Security Issues and Challenges in Big Data Analysis", *International Journal of Advanced Research in Computer Science and Software Engineering* 6(2), February - 2016, pp. 530-536.
9. Debbie Stephenson "https://www.firmex.com/resources/blog/7-big-data-techniques-that-create-business-value/".