Cognitive Science Meets Autonomous Mental Development

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The 7th IEEE International Conference on Development and Learning (ICDL 2008) took place at the Asilomar Conference Grounds in Monterey, CA, from August 9 to 12, 2008. The Asilomar Conference Ground has been a place for some well-known conferences in U.S. history, with its natural beach surroundings dotted with rustic buildings with spacious rooms and other facilities. This year’s conference had financial support from the IEEE Computational Intelligence Society and technical coordination with the Cognitive Science Society. Like our previous meetings, ICDL 2008 was a truly interdisciplinary conference, with papers and posters ranging from computer science and engineering, machine learning, and robotics, to developmental, cognitive, and social psychology, with additional content in the fields of anthropology and linguistics, and the biological and neurosciences. The common theme was multidisciplinary efforts to understand complex dynamics of emergent cognitive and behavioral systems, in biological or artificial agents/systems.

Attendees enjoyed cutting-edge talks from three outstanding invited speakers. Professor Richard Aslin of Rochester University discussed evidence and models of unsupervised learning by human infants and adults. Professor Terry Jernigan of UC-San Diego described recent breakthroughs in structural imaging of developing brains, and resulting insights into emergent changes in cognition. Professor Andrew Ng of Stanford described neurally inspired learning algorithms by which systems can discover complex structures. These talks were complemented not only by talks chosen by peer review but also by two reviewed
special sessions on Bayesian and connectionist approaches to learning, and on visual attention and recognition, respectively. The program (http://www.icdl08.org/schedule.htm) nicely illustrates the diverse but coherent and cutting-edge breadth of the ICDL programs in recent years.

ICDL 2008 accepted not only regular six-page paper submissions but also short “late-breaking” one-page abstract submissions. This was the first year that the “late-breaking” submission track was offered, and we received very positive feedback on providing the opportunity for many to present preliminary or very recent work and to take part in the ICDL meeting.

From the more than 120 different submissions, we selected 24 full papers for oral presentation, 27 full papers for poster presentation, 2 special sessions with a total of 8 presentations, and 21 late-breaking abstracts for poster presentation. The quality of the submissions was universally very high, making decisions difficult (and occasionally hotly debated!) for our program committee. Our review process enlisted the help of 38 program committee members who coordinated reviews from 127 reviewers.

At the conference, IEEE Computational Intelligent Society President David Fogel announced that IEEE has approved a new journal, IEEE Transactions on Autonomous Mental Development, with the first issue scheduled to appear in spring 2009. See the AMD Newsletter (http://www.cse.msu.edu/amdtc/amdnl/), vol. 5, no. 2, for the Call-for-Papers.

ICDL 2008 was organized by Jay McClelland and Juyang Weng (General Chairs), and Gedeon Deák and Brian Scassellati (Program Chairs). ICDL 2010 will be held at Ann Arbor, August 18–21, 2010. Its website is at http://www.eecs.umich.edu/icdl-2010/. Full six-page papers are due on February 20, 2010 and two-page poster abstracts are due on May 27, 2010.