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Advances in Distributed Load Orchestration for Vision Computing in 5G-MEC Environments

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Abstract

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Abstract:

Multi-access Edge Computing (MEC) is a type of network architecture that provides cloud computing capabilities at the edge of the network. We consider the use case of video surveillance for an university campus running on a 5G-MEC environment. A key issue is the eventual overloading of computing resources on the MEC nodes during peak demand. We propose a new strategy for distributed orchestration in MEC environments based on how load balancing strategies organize processing queue. Then, we elaborated a strategy for deadline-aware queueing prioritization that organizes requests based on pre-established thresholds. We introduce a simulation-based experimentation environment and conduct a number of tests demonstrating the benefit of our approach by reducing the number of referrals and improving the effectiveness in meeting deadlines.

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