Towards energy-efficient intelligent edge computing

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This research focuses on energy-efficient edge computing in the context of intelligent edge computing. With the increasing demand for computation and data processing at edge network nodes, the study explores the use of artificial intelligence (AI) techniques, specifically reinforcement learning, to enhance energy management. By conducting a comparative analysis of algorithms, including the Markov Decision Process, Q-learning, Fair heuristic, and Random heuristic, on the basis of waiting time of servers, response time, and energy consumption, the research aims to identify the most effective approach for optimizing the intelligent edge system. Simulations using the iFogSim simulator kit provide empirical evidence for performance evaluation. The findings highlight the advantages of AI-based schemes and emphasize the need for further advancements in intelligent edge computing applications.