

Optimizing UAV Computation Offloading via MEC with Deep Deterministic Policy Gradient

Muhammad Usman Hadi¹ and Ahmed Bashir Abbasi¹

¹Ulster University - Belfast Campus

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Abstract

Mobile edge computing (MEC) seems to be highly efficient to process the generated data from IoT devices by providing computational resources locating in close range to network edge. MEC can be promising in reduction of latency and consumption of energy from data transmissions from offloading computational tasks from IoT devices to nearby edge servers. In this paper, a computation offloading optimization algorithm is proposed which is based on deep deterministic policy gradient for realistic Aurelia X6 Pro unmanned aerial vehicle (UAV)-assisted MEC systems. The proposed algorithm optimizes the offloading decision for UAVs by taking task characteristics and the communication environment into consideration. The simulation yields outcomes indicating that the suggested algorithm can considerably enhance the competency of MEC systems.

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