Seminar

Multi-Agent Distributed Reinforcement Learning Approaches

In latest research, machine learning has been successfully applied to many kinds of problems like picture classification or control. Machine learning has shown to be able to build highly accurate models also for a big amount of sensor data. In many problems, like autonomous driving, coordination between different entities (cars) which are controlled individually is necessary to optimize for a specific goal (routing with least average travelling time).

In such problems mainly two approaches exist: the (1) centralized and the (2) decentralized one. In the first (1) one, all sensor data is shared with a central controller which processes it. In the decentralized (2) manner only parts of the data is shared between the different entities, which decide on their actions locally based on the available information.

The goal of this seminar topic is to search for and investigate different learning systems which are based on the decentralized approach (multi-agent) and are optimally aiming for a single global goal.

Advisors

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