Associate Professorship of Embedded Systems and Internet of Things
Department of Electrical and Computer Engineering
Technical University of Munich

Deep Reinforcement Learning based scheduling in TSN

Description of Topic

April 2, 2022

Title: "Deep Reinforcement Learning based scheduling in TSN"
Supervisor: Rubi Debnath

Context

Time-sensitive network (TSN) enables deterministic transmission on standard Ethernet. For industrial networks, we require complex schedules to configure the network. In this topic, the goal is to implement a deep reinforcement learning based algorithm to generate the scheduling of time-triggered traffic in a TSN network.

Requirements

- **Knowledge of computer networks.**
- **Good programming skills in Python.**
- **Experience with Pytorch.**
- **Knowledge of deep reinforcement learning, graph neural networks.**
- Basic understanding of Time Sensitive Networking.
- Independent and motivated to work on networking optimization problems.

Contact

If you are interested in this topic, please send your full application (CV, transcript of records, research interests, possible start dates) to Rubi Debnath (rubi.debnath@tum.de).