Deutsches
Forschungszentrum
für Künstliche
Intelligenz GmbH

Master Thesis
Edge Computing Platform for High Throughput Low Latency Communication System

Description:

Industrial communication systems are getting an increasing attention since the German initiative *Industrie 4.0* was born. Its main intention is to introduce novel communication concepts like Internet of Things into the industrial area shifting so the manufacturing from highly automated production facilities towards real *Cyber-Physical Production Systems (CPPS).* Most participants of the manufacturing process should be able to communicate with each other. This includes instrumentation and control tasks, human-machine interaction and more.

In order to be able to introduce *Augmented Reality (AR)* or safety-critical applications into industrial area, a flexible, reliable and fast communication is essential. One approach to improve existing solutions is Edge Computing. Bringing computations in proximity of the client would help not only to reduce latency but also to increase flexibility and reliability of the whole system.

The objective of this work is to evaluate advantages of using Edge Computing with wireless communication systems.

Tasks:

- Get into detail with Network Topology and Protocols, Edge Computing and Industrial Communication
- Compare and contrast the state-of-the-art Edge Computing Platforms
- Simulation and evaluation of Edge Computing performance for industrial purposes

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