



Topic:

During the development of intralogistics systems, engineers from multiple domains model the system from different perspectives using domain-specific tools and models. Due to the diversity of engineering models applied, ensuring the consistency of information is challenging. In order to formally express the domain-specific knowledge in a machine-interpretable way, heterogeneous model data will be integrated and restructured into a knowledge graph. In addition, standards and taxonomies in the intralogistics domain will also be built into the knowledge base to realize a multi-level knowledge representation and inconsistency checking.

Tasks:

First, domain standards, taxonomies as well as metamodels will be transformed into the TBox of the knowledge graph. Then, multi-domain model files will be parsed and imported as the Abox of the database. Based on the generated knowledge graph, consistency rules and queries will be systematically designed and implemented, aiming to automatically identify multiple types of information inconsistencies.

Requirement:

- Logical thinking and independent way of working
- Programming experience, preferably in python or java

