

Bachelor Thesis

Knowledge Refinement in Expressive Description Logics

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Description Logics

- ▶ Family of logics used in knowledge representation
- ▶ Individuals, Concepts, and Roles
- ▶ Axioms

Expressive Description Logics

Knowledge Refinement in Expressive Description Logics

Motivation and Thesis Goals

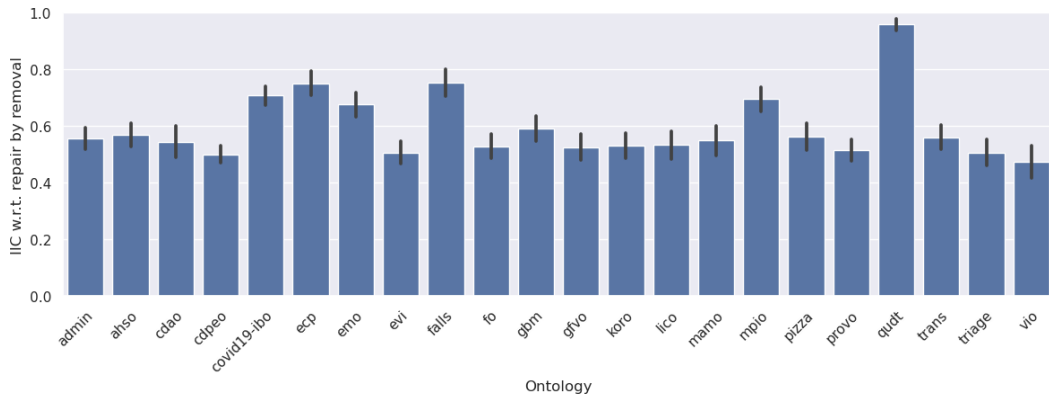
Challenges in Weakening Expressive Description Logics

Implementation of Axiom Weakening

A Protégé Plugin supporting these Techniques

Evaluating Axiom Weakening for Ontology Repair

Evaluation Results



Outcomes of the Thesis

- ▶ Extended the axiom weakening operator to $SR\mathcal{OIQ}$ and showed that the weakening maintains the necessary constraints
- ▶ Evaluated the proposed approach on real-world ontologies
- ▶ Developed a Protégé plugin for applying these techniques

Future Outlook

