Department of Computer Science
Research Focus
"Intelligent Formal Systems"

TECHNISCHE
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Colloquium

Within the seminar of the Research Focus, the Ph.D. programme "Specification of discrete processes and systems of processes by operational models and logics" presents a talk by

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about

"CEL: A Polynomial-time Classifier for the Description Logic $\mathcal{EL}^+$"

Abstract: It is well-known that the Description Logic $\mathcal{EL}$, which allows for conjunction and existential restrictions, has attractive algorithmic properties. Recently, it has been shown that, even in $\mathcal{EL}^+$—the extension of $\mathcal{EL}$ with general concept inclusion (GCI) axioms, role hierarchy, and transitive roles, the main inference problem, concept subsumption, is tractable. The DL $\mathcal{EL}^+$ is used in the formalization of several important ontologies such as the Gene Ontology and SNOMED. The problem of computing all subsumption relationships in a ontology is known as *classification*. We have implemented and optimized the algorithm for computing classification in the DL $\mathcal{EL}^+$. In this talk, I will first introduce the basic notions of this DL and explain the algorithm. Then, the empirical results of our classifier compared with RACER, a highly optimized reasoner for expressive DLs, will be presented.

Date:	12.07.2005
Place and time:	Willersbau, Room: WIL C129, 1.15 pm

All interested persons are invited to attend!

Prof. Dr.-Ing. habil. Heiko Vogler