

Kolloquium Angewandte Informatik

Small is Again Beautiful in Description Logics

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Abstract:

Description Logics (DLs) are a popular family of logic-based knowledge representation languages, which have been used in various application domains such as natural language processing, databases, configuration of technical systems, biomedical ontologies, and the Semantic Web. The Description Logic (DL) research of the last 20 years was mainly concerned with increasing the expressive power of the employed description language without losing the ability of implementing highly-optimized reasoning systems that behave well in practice, in spite of the ever increasing worst-case complexity of the underlying inference problems.

OWL DL, the standard ontology language for the Semantic Web, is based on such an expressive DL for which reasoning is highly intractable. Its sublanguage OWL Lite was intended to provide a tractable version of OWL, but turned out to be only of a slightly lower worst-case complexity than OWL DL. This and other reasons have led to the development of two new families of light-weight DLs, EL and DL-Lite, which recently have been accepted as profiles of OWL 2, the next version of the OWL standard. In this talk, I will give an introduction to these new families of logics and explain the rationales underlying their design.

Short CV

Franz Baader is full professor for Theoretical Computer Science at TU Dresden, Germany. He has obtained his PhD in Computer Science at the University of Erlangen, Germany. He was senior researcher at the German Research Institute for Artificial Intelligence (DFKI) for four years, and associate professor at RWTH Aachen for eight years. His main research area is Logic in Computer Science, in particular knowledge representation (description logics, modal logics, nonmonotonic logics) and automated deduction (term rewriting, unification theory, combination of decision procedures).

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Zu diesem Vortrag lädt das Institut für Angewandte Informatik und Formale Beschreibungsverfahren alle Interessierten herzlich ein.

Andreas Oberweis, Hartmut Schmeck, Detlef Seese, Wolffried Stucky, Rudi Studer (Org.), Stefan Tai