Focusing on a Vocabulary: Ontology Inseparability, Uniform Interpolation and Modularity (Abstract of Invited Talk)

Boris Konev

Department of Computer Science, University of Liverpool, UK
konev@liverpool.ac.uk

Standardisation and wide acceptance of the web ontology language OWL and its profiles have led to the proliferation of description logic ontologies, especially in the medical, bioinformatics and semantic web domains. The sheer size and complexity make it virtually impossible for a human to comprehend the underlying logical structure of an ontology as a whole, so it can be advantageous for ontology engineers to concentrate on specific parts of an ontology. On the other hand, local changes to a logical theory, and interactions between such changes, can have unpredictable non-local effects. Ontology inseparability, closely linked with the notion of conservative extension, is a powerful tool to capture non-local dependencies between ontology terms within a given vocabulary, depending on a specific application scenario. In this talk, we consider different notions of ontology inseparability and their applications to modularity, forgetting and logical difference.

In: P. Koopmann, S. Rudolph, R. Schmidt, C. Wernhard (eds.): *SOQE 2017 – Proceedings of the Workshop on Second-Order Quantifier Elimination and Related Topics, Dresden, Germany, December 6–8, 2017*, published at http://ceur-ws.org.