

Interpolation in Description Logic: A Survey

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Abstract

We discuss the role of (variants of) Craig interpolation in description logic research. We start by considering Craig interpolation itself and how it is related to the structure of ontologies and the rewritability of queries in ontology-based data access. We then briefly discuss the role of parallel interpolation (introduced more recently by Parikh et al) for decomposing ontologies. Finally, we consider uniform interpolation - an extension of Craig interpolation in which the interpolant is independent from the formula on the right-hand side. Uniform interpolation has been the focus of significant research activity in Description Logic, with many theoretical results and first implemented systems.

I will not assume any background knowledge about Description Logics but will introduce the relevant notions as required.