

TITLE: "Exploring Interpolants"

ABSTRACT: Craig Interpolation is a standard method to construct and refine abstractions in model checking. To obtain abstractions that are suitable for the verification of software programs or hardware designs, model checkers rely on theorem provers to find the right interpolants, or interpolants containing the right predicates, in a generally infinite lattice of interpolants for any given interpolation problem. We present a semantic and solver-independent framework for systematically exploring interpolant lattices, based on the notion of interpolation abstraction. We discuss how interpolation abstractions can be constructed for a variety of logics, and how they can be exploited in the context of software model checking.

Joint work with Philipp Ruemmer