DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE
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COMPUTER SCIENCE COLLOQUIUM

Simplification and Complexity in Subtype-Based Program Analysis

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The Seminar Room

Abstract: Program analyses based on partial order constraints (e.g. subtype constraints, set constraints) suffer from the problem that constraint sets extracted from large programs become equally large. Constraint simplification aims at removing redundant information from constraint sets in order to make them more manageable in polymorphic inference systems, and the simplification problem is now widely regarded as a key problem for scalability of polymorphic subtype-based analysis. In this talk, we give an overview of our recent results on algorithms and complexity for constraint simplification and constraint satisfaction in several subtyping systems, and we discuss applications to program analysis based on such systems.

Some of the work discussed in the talk is joint with Fritz Henglein, DIKU.

Kim Skak Larsen