

Verifying Concurrent ML Programs

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Abstract

Concurrent ML is a concurrent extension of the Standard ML language, which is a functional language with strong, static and polymorphic type system, with references. In my talk I would like to sketch a program verification system for this language. Much work has been done on model checking concurrent programs - I would like to create a program verification system for a message-passing functional language. There is a formal definition for Standard ML, it is a question if I can extend this and use for a concurrent language as it is a big-step semantics.

I will introduce the tools I would like to use: the Isabelle theorem prover and its extension Nominal Isabelle, which helps the user to model languages with variable bindings.

This is a research proposal for my dissertation.

Keywords: theorem proving, verification, concurrency

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