Microsoft Research PhD Scholarship

Software Verification and Reliability for Multi-Core Processors


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Summary: Multicore and multiprocessor computers and embedded systems are becoming widespread and almost all software now has to be concurrent. Verification of concurrent programs is a difficult problem and an area of recently intensified practical interest and research activity. In order to optimize memory performance, multicore processors provide relaxed memory models, which makes programs error-prone. Highly-critical, but also highly-concurrent and highly-optimized code such as virtual machines, language runtimes, and concurrency libraries have to operate on relaxed memory models. This is a key aspect of the verification problem. In this project, we will develop tools for ensuring the correctness of concurrent software running on relaxed memory models.

For more information visit http://theorem.ku.edu.tr

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