Informatik-Kolloquium

Rheinisch-Westfälische Technische Hochschule Aachen
Lehrstuhl für Informatik VII

RWTH

Sondertermin

EINLADUNG

Zeit: Freitag, 15.10.1999, 09.30 Uhr

Ort: Raum 4013, Ahornstr.55 (ehem. PH)
am Lehrstuhl Informatik I

Referent: Dr. Doron Peled, Lucent Technologies, USA

Thema: **Specification and Automatic Verification of Message Sequence Charts**

Abstract:

The use of message sequence charts (MSCs) is popular in designing and documenting communication protocols. A recent growth of interest in MSCs has led to various algorithms for automatically analyzing systems of MSCs, e.g., finding race conditions or pattern matching. In this talk I will describe how a causality based temporal logic can be used to specify properties of MSCs. This prevents undecidability problems which arise when specifying properties of MSCs using the traditional interleaving-based linear temporal logic.

Specifically, systems of MSCs are not necessarily finite state systems. Model chekking problem for LTL, based on the interleaving semantics, can be shown to be undecidable. Even simple properties, such as finding race conditions, become undecidable for systems of MSCs. We provide an efficient model checking algorithm for causality properties of systems of MSCs. The model checking environment was implemented as an extension to the ***Spin*** model checking system.

Es laden ein: Die Dozenten der Informatik