

1. Record Nr.	UNISA996465394203316
Titolo	Computer Aided Verification [[electronic resource] ] : 9th International Conference, CAV'97, Haifa, Israel, June 22-25, 1997, Proceedings / / edited by Orna Grumberg
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 1997
ISBN	3-540-69195-2
Edizione	[1st ed. 1997.]
Descrizione fisica	1 online resource (XII, 492 p.)
Collana	Lecture Notes in Computer Science, , 0302-9743 ; ; 1254
Disciplina	004.0151
Soggetti	Computers Computer logic Software engineering Mathematical logic Special purpose computers Artificial intelligence Theory of Computation Logics and Meanings of Programs Software Engineering Mathematical Logic and Formal Languages Special Purpose and Application-Based Systems Artificial Intelligence
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di contenuto	Practical challenges for industrial formal verification tools -- Formal verification of digital systems, from ASICs to HW/SW codesign — a pragmatic approach -- The industrial success of verification tools based on stålmarck's method -- Formal verification — Applications & case studies -- Automatic abstraction techniques for propositional ?-calculus model checking -- A compositional rule for hardware design refinement -- Module checking revisited -- Using compositional preorders in the verification of sliding window protocol -- An efficient decision procedure for the theory of fixed-sized bit-vectors --

Construction of abstract state graphs with PVS -- Verification of a chemical process leak test procedure -- Automatic datapath extraction for efficient usage of HDD -- An  $n \log n$  algorithm for online BDD refinement -- Weak bisimulation for fully probabilistic processes -- Towards a mechanization of cryptographic protocol verification -- Efficient model checking using tabled resolution -- Containment of regular languages in non-regular timing diagram languages is decidable -- An improved reachability analysis method for strongly linear hybrid systems (extended abstract) -- Some progress in the symbolic verification of timed automata -- STARI: A case study in compositional and hierarchical timing verification -- A provably correct embedded verifier for the certification of safety critical software -- Model checking in a microprocessor design project -- Some thoughts on statecharts, 13 years later -- On-the-fly model checking under fairness that exploits symmetry -- Exploiting symmetry when verifying transistor-level circuits by symbolic trajectory evaluation -- Parallelizing the Mur $\phi$  verifier -- A new heuristic for bad cycle detection using BDDs -- Efficient detection of vacuity in ACTL formulas -- Model checking and transitive-closure logic -- Boolean and 2-adic numbers based techniques for verifying synchronous designs -- Programs with quasi-stable channels are effectively recognizable -- Combining constraint solving and symbolic model checking for a class of systems with non-linear constraints -- Relaxed visibility enhances partial order reduction -- Partial-order reduction in symbolic state space exploration -- Deadlock checking using net unfoldings -- Trace table based approach for pipelined microprocessor verification -- On combining formal and informal verification -- Efficient modeling of memory arrays in symbolic simulation -- Symbolic model checking of infinite state systems using presburger arithmetic -- Parametrized verification of linear networks using automata as invariants -- Symbolic model checking with rich assertional languages -- The invariant checker: Automated deductive verification of reactive systems -- The PEP tool -- TerMiLog: A system for checking termination of queries to logic programs -- Mosel: A sound and efficient tool for M2L(Str) -- The verus tool: A quantitative approach to the formal verification of real-time systems -- Uppaal: Status & developments -- HyTech: A model checker for hybrid systems -- SMC: A symmetry based model checker for verification of liveness properties --  $\mu$ cke — Efficient  $\mu$ -calculus model checking -- Prod 3.2 An advanced tool for efficient reachability analysis -- VeriSoft: A tool for the automatic analysis of concurrent reactive software -- RuleBase: Model checking at IBM.

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## Sommario/riassunto

This book constitutes the strictly refereed proceedings of the 9th International Conference on Computer Aided Verification, CAV '97, held in Haifa, Israel, in June 1997. The volume presents 34 revised full papers selected from a total of 84 submissions. Also included are 7 invited contributions as well as 12 tool descriptions. The volume is dedicated to the theory and practice of computer aided formal methods for software and hardware verification, with an emphasis on verification tools and algorithms and the techniques needed for their implementation. The book is a unique record documenting the recent progress in the area.

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