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Collana	Lecture Notes in Computer Science, , 0302-9743 ; ; 2988
Disciplina	005.1/2
Soggetti	Software engineering Computer logic Computer communication systems Algorithms Software Engineering/Programming and Operating Systems Logics and Meanings of Programs Software Engineering Computer Communication Networks Algorithm Analysis and Problem Complexity
Lingua di pubblicazione	Inglese
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Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Theorem Proving -- Revisiting Positive Equality -- An Interpolating Theorem Prover -- Minimal Assignments for Bounded Model Checking -- Probabilistic Model Checking -- Numerical vs. Statistical Probabilistic Model Checking: An Empirical Study -- Efficient Computation of Time-Bounded Reachability Probabilities in Uniform Continuous-Time Markov Decision Processes -- Model Checking Discounted Temporal Properties -- Testing -- Automatic Creation of Environment Models via Training -- Error Explanation with Distance

Metrics -- Online Efficient Predictive Safety Analysis of Multithreaded Programs -- Tools -- Voodoo: Verification of Object-Oriented Designs Using UPPAAL -- CoPS – Checker of Persistent Security -- Tampere Verification Tool -- SyncGen: An Aspect-Oriented Framework for Synchronization -- MetaGame: An Animation Tool for Model-Checking Games -- A Tool for Checking ANSI-C Programs -- Explicite State/Petri Nets -- Obtaining Memory-Efficient Reachability Graph Representations Using the Sweep-Line Method -- Automated Generation of a Progress Measure for the Sweep-Line Method -- Tarjan's Algorithm Makes On-the-Fly LTL Verification More Efficient -- Scheduling -- Resource-Optimal Scheduling Using Priced Timed Automata -- Decidable and Undecidable Problems in Schedulability Analysis Using Timed Automata -- Constraint Solving -- The Succinct Solver Suite -- Binding-Time Analysis for MetaML via Type Inference and Constraint Solving -- A Class of Polynomially Solvable Range Constraints for Interval Analysis without Widening and Narrowing -- Timed Systems -- A Partial Order Semantics Approach to the Clock Explosion Problem of Timed Automata -- Lower and Upper Bounds in Zone Based Abstractions of Timed Automata -- A Scalable Incomplete Test for the Boundedness of UML RT Models -- Automatic Verification of Time Sensitive Cryptographic Protocols -- Case Studies -- Simulation-Based Verification of Autonomous Controllers via Livingstone PathFinder -- Automatic Parametric Verification of a Root Contention Protocol Based on Abstract State Machines and First Order Timed Logic -- Software -- Refining Approximations in Software Predicate Abstraction -- Checking Strong Specifications Using an Extensible Software Model Checking Framework -- Applying Game Semantics to Compositional Software Modeling and Verification -- Temporal Logic -- Solving Disjunctive/Conjunctive Boolean Equation Systems with Alternating Fixed Points -- How Vacuous Is Vacuous? -- A Temporal Logic of Nested Calls and Returns -- Liveness with Incomprehensible Ranking -- Abstraction -- Guided Invariant Model Checking Based on Abstraction and Symbolic Pattern Databases -- Numeric Domains with Summarized Dimensions -- Symbolically Computing Most-Precise Abstract Operations for Shape Analysis -- Monotonic Abstraction-Refinement for CTL -- Automata Techniques -- Omega-Regular Model Checking -- FASTer Acceleration of Counter Automata in Practice -- From Complementation to Certification.

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## Sommario/riassunto

This volume contains the proceedings of the 10th International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS 2004). TACAS 2004 took place in Barcelona, Spain, from March 29th to April 2nd, as part of the 7th European Joint Conferences on Theory and Practice of Software (ETAPS 2004), whose aims, organization, and history are detailed in a foreword by the ETAPS Steering Committee Chair, Jos´ e Luiz Fiadeiro. TACAS is a forum for researchers, developers, and users interested in rigorously based tools for the construction and analysis of systems. The conference serves to bridge the gaps between different communities including, but not limited to, those devoted to formal methods, software and hardware verification, static analysis, programming languages, software engineering, real-time systems, and communication protocols that share common interests in, and techniques for, tool development. In particular, by providing a venue for the discussion of common problems, heuristics, algorithms, data structures, and methodologies, TACAS aims to support researchers in their quest to improve the utility, reliability, reusability, and efficiency of tools for building systems. TACAS seeks theoretical papers with a clear link to tool construction, papers describing relevant algorithms and practical aspects of their implementation,

- pers giving descriptions of tools and associated methodologies, and case studies with a conceptual message.

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