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| | Soggetti | Software engineering<br>Computer logic<br>Computer communication systems<br>Algorithms<br>Software Engineering/Programming and Operating Systems<br>Logics and Meanings of Programs<br>Software Engineering<br>Computer Communication Networks<br>Algorithm Analysis and Problem Complexity |
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| | Livello bibliografico | Monografia |
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| | Nota di bibliografia | Includes bibliographical references and index. |
| | Nota di contenuto | Invited Contributions -- Branching vs. Linear Time: Final Showdown -- Propositional Reasoning -- Symbolic Verification -- Language Containment Checking with Nondeterministic BDDs -- Satisfiability Checking Using Boolean Expression Diagrams -- A Library for Composite Symbolic Representations -- Infinite State Systems: Deduction and Abstraction -- Synthesis of Linear Ranking Functions -- Automatic Deductive Verification with Invisible Invariants -- Incremental Verification by Abstraction -- A Technique for Invariant Generation -- Application of Model Checking Techniques -- Model Checking Syllabi and Student Careers -- Verification of Vortex Workflows -- Parameterized Verification of Multithreaded Software |

Libraries -- Timed and Probabilistic Systems -- Efficient Guiding Towards Cost-Optimality in UPPAAL -- Linear Parametric Model Checking of Timed Automata -- Abstraction in Probabilistic Process Algebra -- First Passage Time Analysis of Stochastic Process Algebra Using Partial Orders -- Hardware: Design and Verification -- Hardware/Software Co-design Using Functional Languages -- Automatic Abstraction of Memories in the Formal Verification of Superscalar Microprocessors -- Software Verification -- Boolean and Cartesian Abstraction for Model Checking C Programs -- Finding Feasible Counter-examples when Model Checking Abstracted Java Programs -- The loop Compiler for Java and JML -- Symbolic Verification -- Searching Powerset Automata by Combining Explicit-State and Symbolic Model Checking -- Saturation: An Efficient Iteration Strategy for Symbolic State—Space Generation -- Testing: Techniques and Tools -- Automated Test Generation from Timed Automata -- Testing an Intentional Naming Scheme Using Genetic Algorithms -- Building a Tool for the Analysis and Testing of Web Applications: Problems and Solutions -- TATOO: Testing and Analysis Tool for Object-Oriented Software -- Implementation Techniques -- Implementing a Multi-valued Symbolic Model Checker -- Is There a Best Symbolic Cycle-Detection Algorithm? -- Combining Structural and Enumerative Techniques for the Validation of Bounded Petri Nets -- A Sweep-Line Method for State Space Exploration -- Semantics and Compositional Verification -- Assume-Guarantee Based Compositional Reasoning for Synchronous Timing Diagrams -- Simulation Revisited -- Compositional Message Sequence Charts -- An Automata Based Interpretation of Live Sequence Charts -- Logics and Model-Checking -- Coverage Metrics for Temporal Logic Model Checking -- Parallel Model Checking for the Alternation Free ?-Calculus -- Model Checking CTL*[DC] -- ETAPS Tool Demonstration -- CPN/Tools: A Tool for Editing and Simulating Coloured Petri Nets ETAPS Tool Demonstration Related to TACAS -- The ASM Workbench: A Tool Environment for Computer-Aided Analysis and Validation of Abstract State Machine Models -- The Erlang Verification Tool.

| Sommario/riassunto | This book constitutes the refereed proceedings of the 7th International Conference on Tools and Algorithms for the Construction and Analysis of Systems, TACAS 2001. The 36 revised full papers presented together with an invited contribution were carefully reviewed and selected from a total of 125 submissions. The papers are organized in sections on symbolic verification, infinite state systems - deduction and abstraction, application of model checking techniques, timed and probabilistic systems, hardware - design and verification, software verification, testing - techniques and tools, implementation techniques, semantics and compositional verification, logics and model checking, and ETAPS tool demonstration. |