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	Nota di contenuto	Variations on Safety -- Decision Procedures and their Application in Analysis Decision Procedures for Flat Array Properties -- SATMC: A SAT-Based Model Checker for Security-Critical Systems -- IC3 Modulo Theories via Implicit Predicate Abstraction -- SMT-Based Verification of Software Countermeasures against Side-Channel Attacks -- Detecting Unrealizable Specifications of Distributed Systems -- Synthesizing Safe Bit-Precise Invariants -- PEALT: An Automated Reasoning Tool for Numerical Aggregation of Trust Evidence -- GRASShopper: Complete Heap Verification with Mixed Specifications -- Alternating Runtime and Size Complexity Analysis of Integer Programs -- Proving Non

termination via Safety -- Ranking Templates for Linear Loops -- Modeling and Model Checking Discrete Systems FDR3 — A Modern Refinement Checker for CSP -- Concurrent Depth-First Search Algorithms -- Basic Problems in Multi-View Modeling -- GPU explore: Many-Core On-the-Fly State Space Exploration Using GPUs -- Forward Reachability Computation for Autonomous Max-Plus-Linear Systems -- Compositional Invariant Generation for Timed Systems -- Characterizing Algebraic Invariants by Differential Radical Invariants -- Quasi-Equal Clock Reduction: More Networks, More Queries -- Are Timed Automata Bad for a Specification Language? Language Inclusion Checking for Timed Automata -- Monitoring, Fault Detection and Identification Formal Design of Fault Detection and Identification Components Using Temporal Epistemic Logic -- Monitoring Modulo Theories -- Temporal-Logic Based Runtime Observer Pairs for System Health Management of Real-Time Systems -- Status Report on Software Verification (Competition Summary SV-COMP 2014) -- CBMC – C Bounded Model Checker (Competition Contribution) -- CPAchecker with Sequential Combination of Explicit-Value Analyses and Predicate Analyses (Competition Contribution) -- CPALIEN: Shape Analyzer for CPAChecker (Competition Contribution) -- Lazy-CSeq: A Lazy Sequentialization Tool for C (Competition Contribution) -- MU-CSeq: Sequentialization of C Programs by Shared Memory Unwindings (Competition Contribution) -- ESBMC 1.22 (Competition Contribution) -- FrankenBit: Bit-Precise Verification with Many Bits (Competition Contribution) -- Predator: A Shape Analyzer Based on Symbolic Memory Graphs (Competition Contribution) -- Symbiotic 2: More Precise Slicing (Competition Contribution) -- Ultimate Automizer with Unsatisfiable Cores (Competition Contribution) -- Ultimate Kojak (Competition Contribution) -- Specifying and Checking Linear Time Properties Discounting in LTL -- Symbolic Model Checking of Stutter-Invariant Properties Using Generalized Testing Automata -- Symbolic Synthesis for Epistemic Specifications with Observational Semantics -- Synthesis for Human-in-the-Loop Control Systems -- Learning Regular Languages over Large Alphabets -- Verification of Concurrent Quantum Protocols by Equivalence Checking -- Computing Conditional Probabilities in Markovian Models Efficiently -- Permissive Controller Synthesis for Probabilistic Systems -- Precise Approximations of the Probability Distribution of a Markov Process in Time: An Application to Probabilistic Invariance -- SACO: Static Analyzer for Concurrent Objects -- VeriMAP: A Tool for Verifying Programs through Transformations -- CIF 3: Model-Based Engineering of Supervisory Controllers -- EDD: A Declarative Debugger for Sequential Erlang Programs -- APTE: An Algorithm for Proving Trace Equivalence -- The Modest Toolset: An Integrated Environment for Quantitative Modelling and Verification -- Bounds2: A Tool for Compositional Multi-parametrised Verification -- On the Correctness of a Branch Displacement Algorithm -- Analyzing the Next Generation Airborne Collision Avoidance System -- Environment-Model Based Testing of Control Systems: Case Studies.

| Sommario/riassunto | This book constitutes the proceedings of the 20th International Conference on Tools and Algorithms for the Construction and Analysis of Systems, TACAS 2014, which took place in Grenoble, France, in April 2014, as part of the European Joint Conferences on Theory and Practice of Software, ETAPS 2014. The total of 42 papers included in this volume, consisting of 26 research papers, 3 case study papers, 6 regular tool papers and 7 tool demonstrations papers, were carefully reviewed and selected from 161 submissions. In addition the book contains one invited contribution. The papers are organized in topical sections named: decision procedures and their application in analysis; |

complexity and termination analysis; modeling and model checking discrete systems; timed and hybrid systems; monitoring, fault detection and identification; competition on software verification; specifying and checking linear time properties; synthesis and learning; quantum and probabilistic systems; as well as tool demonstrations and case studies.