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Collana	Theoretical Computer Science and General Issues, , 2512-2029 ; ; 9206
Disciplina	004
Soggetti	Computer science Software engineering Machine theory Computer engineering Computer networks Computer Science Logic and Foundations of Programming Software Engineering Formal Languages and Automata Theory Computer Engineering and Networks
Lingua di pubblicazione	Inglese
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Nota di contenuto	A Trusted Mechanised Specification of JavaScript: One Year On -- Model Checking and Refinements -- On Automation of CTL* Verification for Infinite-State Systems -- Algorithms for Model Checking HyperLTL and HyperCTL -- Fairness Modulo Theory: A New Approach to LTL Software Model Checking -- Model Checking Parameterized Asynchronous Shared-Memory Systems -- SMT and POR Beat Counter Abstraction: Parameterized Model Checking of Threshold-Based Distributed Algorithms -- Skipping Refinement -- Quantitative Reasoning -- Percentile Queries in Multi-dimensional Markov Decision Processes -- Faster Algorithms for Quantitative Verification in Constant Treewidth Graphs -- Counterexample Explanation by Learning Small Strategies in Markov Decision Processes -- Symbolic Polytopes for Quantitative Interpolation and Verification -- Adaptive Aggregation of

Markov Chains: Quantitative Analysis of Chemical Reaction Networks --  
 PROPhESY: A PRObabilistic ParamETER SYNthesis Tool -- Software  
 Analysis -- Effective Search-Space Pruning for Solvers of String  
 Equations, Regular Expressions and Length Constraints -- Automata-  
 Based Model Counting for String Constraints -- OpenJDK's Java.utils.  
 Collection.sort() Is Broken: The Good, the Bad and the Worst Case --  
 Tree Buffers -- Learning Commutativity -- Specifications -- Angelic  
 Verification: Precise Verification Modulo Unknowns -- The SeaHorn  
 Verification Framework -- Automatic Rootcausing for Program  
 Equivalence Failures in Binaries -- Fine-Grained Caching of Verification  
 Results -- Predicting a Correct Program in Programming by Example --  
 Abstract Interpretation with Higher-Dimensional Ellipsoids and Conic  
 Extrapolation -- Lightning Talks -- ADAM: Causality-Based Synthesis  
 of Distributed Systems -- Alchemist: Learning Guarded Affine  
 Functions -- OptiMathSAT: A Tool for Optimization Modulo Theories --  
 Systematic Asynchrony Bug Exploration for Android Apps -- Norn: An  
 SMT Solver for String Constraints -- PVSio-web 2.0: Joining PVS to HCI  
 -- The Hanoi Omega-Automata Format -- TheOpen-Source LearnLib: A  
 Framework for Active Automata Learning -- BBS: A Phase-Bounded  
 Model Checker for Asynchronous Programs -- Time-Aware  
 Abstractions in HybridSal -- A Type-Directed Approach to Program  
 Repair -- Formal Design and Safety Analysis of AIR6110 Wheel Brake  
 System -- Meeting a Powertrain Verification Challenge -- Synthesising  
 Executable Gene Regulatory Networks from Single-Cell Gene  
 Expression Data -- Empirical Software Metrics for Benchmarking of  
 Verification Tools -- Interpolation, IC3/PDR, and Invariants Property-  
 Directed Inference of Universal Invariants or Proving Their Absence --  
 Efficient Anytime Techniques for Model-Based Safety Analysis --  
 Boosting k-induction with Continuously-Refined Invariants -- Fast  
 Interpolating BMC -- Counterexample-Guided Polynomial Loop  
 Invariant Generation by Lagrange Interpolation.

## Sommario/riassunto

The two-volume set LNCS 9206 and LNCS 9207 constitutes the  
 refereed proceedings of the 27th International Conference on  
 Computer Aided Verification, CAV 2015, held in San Francisco, CA,  
 USA, in July 2015. The total of 58 full and 11 short papers presented in  
 the proceedings was carefully reviewed and selected from 252  
 submissions. The papers were organized in topical sections named:  
 model checking and refinements; quantitative reasoning; software  
 analysis; lightning talks; interpolation, IC3/PDR, and Invariants; SMT  
 techniques and applications; HW verification; synthesis; termination;  
 and concurrency.