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Altri autori (Persone)	LarsenKim Guldstrand
Disciplina	004.0151
Soggetti	Computer science Computer engineering Computer networks Microprogramming Software engineering Theory of Computation Computer Engineering and Networks Control Structures and Microprogramming Software Engineering
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Nota di contenuto	Verification Techniques (not SMT) -- Directed Reachability for Infinite- State Systems -- Bridging Arrays and ADTs in Recursive Proofs -- A Two-Phase Approach for Conditional Floating-Point Verification -- Symbolic Coloured SCC Decomposition -- Case Studies -- Local Search with a SAT Oracle for Combinatorial Optimization -- Analyzing Infrastructure as Code to Prevent Intra-update Sniping Vulnerabilities -- Proof Generation/Validation -- Certifying Proofs in the First-Order Theory of Rewriting -- Syntax-Guided Quantifier Instantiation -- Making Theory Reasoning Simpler -- Deductive Stability Proofs for

Ordinary Differential Equations -- Tool Papers -- An SMT-Based Approach for Verifying Binarized Neural Networks -- cake lpr: Verified Propagation Redundancy Checking in CakeML -- Deductive Verification of Floating-Point Java Programs in KeY -- Helmholtz: A Verifier for Tezos Smart Contracts Based on Refinement Types -- SyReNN: A Tool for Analyzing Deep Neural Networks -- MachSMT: A Machine Learning-based Algorithm Selector for SMT Solvers -- dtControl 2.0: Explainable Strategy Representation via Decision Tree Learning Steered by Experts -- Tool Demo Papers -- HLola: a Very Functional Tool for Extensible Stream Runtime Verification -- AMulet 2.0 for Verifying Multiplier Circuits -- RTLola on Board: Testing Real Driving Emissions on your Phone -- Replicating Restart with Prolonged Retrials: An Experimental Report -- A Web Interface for Petri Nets with Transits and Petri Games -- Momba: JANI Meets Python -- SV-Comp Tool Competition Papers -- Software Verification: 10th Comparative Evaluation (SV-COMP 2021) -- CPALocator: Thread-Modular Approach with Projections (Competition Contribution) -- Dartagnan: Leveraging Compiler Optimizations and the Price of Precision (Competition Contribution) -- Gazer-Theta: LLVM-based Verifier Portfolio with BMC/CEGAR (Competition Contribution) -- Goblint: Thread-Modular Abstract Interpretation Using Side-Effecting Constraints (Competition Contribution) -- Towards String Support in JayHorn (Competition Contribution) -- JDart: Portfolio Solving, Breadth-First Search and SMT-Lib Strings (Competition Contribution) -- Symbiotic 8: Beyond Symbolic Execution (Competition Contribution) -- VeriAbs: A Tool for Scalable Verification by Abstraction (Competition Contribution).

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### Sommario/riassunto

This open access two-volume set constitutes the proceedings of the 27th International Conference on Tools and Algorithms for the Construction and Analysis of Systems, TACAS 2021, which was held during March 27 – April 1, 2021, as part of the European Joint Conferences on Theory and Practice of Software, ETAPS 2021. The conference was planned to take place in Luxembourg and changed to an online format due to the COVID-19 pandemic. The total of 41 full papers presented in the proceedings was carefully reviewed and selected from 141 submissions. The volume also contains 7 tool papers; 6 Tool Demo papers, 9 SV-Comp Competition Papers. The papers are organized in topical sections as follows: Part I: Game Theory; SMT Verification; Probabilities; Timed Systems; Neural Networks; Analysis of Network Communication. Part II: Verification Techniques (not SMT); Case Studies; Proof Generation/Validation; Tool Papers; Tool Demo Papers; SV-Comp Tool Competition Papers.

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