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Descrizione fisica	1 online resource (XV, 604 p. 212 illus., 108 illus. in color.)
Collana	Theoretical Computer Science and General Issues, , 2512-2029 ; ; 12597
Disciplina	005.14
Soggetti	Computer science Natural language processing (Computer science) Software engineering Microprogramming Computers, Special purpose Theory of Computation Natural Language Processing (NLP) Software Engineering Control Structures and Microprogramming Special Purpose and Application-Based Systems
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Invited Papers -- Model Checking Algorithms for Hyperproperties -- Algebra-based Synthesis of Loops and their Invariants -- Generative Program Analysis and Beyond: The Power of Domain-Specific Languages -- Hyperproperties and Infinite-state Systems -- Compositional Model Checking for Multi-Properties -- Decomposing Data Structure Commutativity Proofs with mn-Differencing -- Proving the existence of fair paths in infinite-state systems -- A Self-Certifying Compilation Framework for WebAssembly -- Concurrent and Distributed Systems -- Concurrent Correctness in Vector Space -- Verification of Concurrent Programs Using Petri Net Unfoldings --

Eliminating Message Counters in Synchronous Threshold Automata -- A Reduction Theorem for Randomized Distributed Algorithms under Weak Adversaries -- Checking -- Runtime Abstract Interpretation for Numerical Accuracy and Robustness -- Twinning automata and regular expressions for string static analysis -- Unbounded Procedure Summaries from Bounded Environments -- Syntax-Guided Synthesis for Lemma Generation in Hardware Model Checking -- Synthesis and Repair -- Approximate Bit Dependency Analysis to Identify Program Synthesis Problems as Infeasible -- Automated Repair of Heap-Manipulating Programs using Deductive Synthesis -- GPURepair: Automated Repair of GPU Kernels -- Applications -- A Synchronous Effects Logic for Temporal Verification of Pure Esterel -- A Design of GPU-Based Quantitative Model Checking -- Formal Semantics and Verification of Network Based Biocomputation Circuits -- Netter: Probabilistic, Stateful Network Models,. Decision Procedures -- Deciding the Bernays-Schoenfinkel Fragment over Bounded Difference Constraints by Simple Clause Learning over Theories -- Incremental Search for Conflict and Unit Instances of Quantified Formulas with E-Matching -- On Preprocessing for Weighted MaxSAT -- Compositional Satisfiability Solving in Separation Logic.

Sommario/riassunto

This book constitutes the proceedings of the 22nd International Conference on Verification, Model Checking, and Abstract Interpretation, VMCAI 2021, which was held virtually during January 17-19, 2021. The conference was planned to take place in Copenhagen, Denmark, but changed to an online event due to the COVID-19 pandemic. The 23 papers presented in this volume were carefully reviewed from 48 submissions. VMCAI provides a forum for researchers working on verification, model checking, and abstract interpretation and facilitates interaction, cross-fertilization, and advancement of hybrid methods that combine these and related areas. The papers presented in this volume were organized in the following topical sections: hyperproperties and infinite-state systems; concurrent and distributed systems; checking; synthesis and repair; applications; and decision procedures. .
