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Collana	Theoretical Computer Science and General Issues, , 2512-2029 ; ; 10145
Disciplina	005.14
Soggetti	Computer science Software engineering Computer networks Machine theory Compilers (Computer programs) Computer Science Logic and Foundations of Programming Software Engineering Computer Communication Networks Formal Languages and Automata Theory Theory of Computation Compilers and Interpreters
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Bringing LTL Model Checking to Biologists -- Verified Concurrent Code: Tricks of the Trade -- Detecting Strict Aliasing Violations in the Wild -- Effective Bug Finding in C Programs with Shape and Effect Abstractions -- Synthesizing Non-Vacuous Systems -- Static Analysis of Communicating Process Using Symbolic Transducers -- Reduction of Workflow Nets for Generalized Soundness Verification -- Structuring Abstract Interpreters through State and Value Abstractions -- Matching Multiplications in Bit-Vector Formulas -- Independence Abstractions and Models of Concurrency -- Complete Abstractions and Subclassical Modal Logics -- Using Abstract Interpretation to Correct

Synchronization Faults -- Property Directed Reachability for Proving Absence of Concurrent Modification Errors -- Stabilizing Floating-Point Programs Using Provenance Analysis -- Dynamic Reductions for Model Checking Concurrent Software -- Synthesising Strategy Improvement and Recursive Algorithms for Solving 2.5 Player Parity Games -- Counterexample Validation and Interpolation-Based Refinement for Forest Automata -- Block-wise Abstract Interpretation by Combining Abstract Domains with SMT -- Solving Nonlinear Integer Arithmetic with MCSat -- Accuracy of Message Counting Abstraction in Fault-Tolerant Distributed Algorithms -- Efficient Elimination of Redundancies in Polyhedra Using Raytracing -- Precise Thread-Modular Abstract Interpretation of Concurrent Programs Using Relational Interference Abstractions -- Detecting All High-Level Dataraces in an RTOS Kernel -- Reachability for Dynamic Parametric Processes -- Conjunctive Abstract Interpretation Using Paramodulation -- Reasoning in the Bernays-Schonfinkel-Ramsey Fragment of Separation Logic -- Finding Relevant Templates via the Principal Component Analysis -- Sound Bit-Precise Numerical Domains -- IC3 - Flipping the E in ICE -- Partitioned Memory Models for Program Analysis.

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#### Sommario/riassunto

This book constitutes the refereed proceedings of the 18th International Conference on Verification, Model Checking, and Abstract Interpretation, VMCAI 2017, held in Paris, France, in January 2017. The 27 full papers together with 3 invited keynotes presented were carefully reviewed and selected from 60 submissions. VMCAI provides topics including: program verification, model checking, abstract interpretation and abstract domains, program synthesis, static analysis, type systems, deductive methods, program certification, debugging techniques, program transformation, optimization, hybrid and cyber-physical systems. .

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