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Collana	Programming and Software Engineering ; ; 8442
Disciplina	005.1
Soggetti	Software engineering Mathematical logic Computer logic Management information systems Computer science Computers Software Engineering Mathematical Logic and Formal Languages Logics and Meanings of Programs Management of Computing and Information Systems Computation by Abstract Devices
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di contenuto	Validity Checking of Put back Transformations in Bidirectional Programming -- Proof Engineering Considered Essential -- Engineering UToPiA: Formal Semantics for CML -- 40 Years of Formal Methods: Some Obstacles and Some Possibilities? -- A Refinement Based Strategy for Local Deadlock Analysis of Networks of CSP Processes -- Algebraic Principles for Rely-Guarantee Style Concurrency Verification Tools -- Definition, Semantics and Analysis of Multi rate Synchronous AADL -- Trust Found: Towards a Formal Foundation for Model Checking Trusted Computing Platforms -- The VerCors Tool for Verification of Concurrent Programs -- Knowledge-Based Automated Repair of Authentication Protocols -- A Simplified Z Semantics for Presentation

Interaction Models -- Log Analysis for Data Protection Accountability -- Automatic Compositional Synthesis of Distributed Systems -- Automated Real Proving in PVS via MetiTarski -- Quiescent Consistency: Defining and Verifying Relaxed Linearizability -- Temporal Precedence Checking for Switched Models and Its Application to a Parallel Landing Protocol -- Contracts in Practice -- When Equivalence and Bisimulation Join Forces in Probabilistic Automata -- Precise Predictive Analysis for Discovering Communication Deadlocks in MPI Programs -- Proof Patterns for Formal Methods -- Efficient Runtime Monitoring with Metric Temporal Logic: A Case Study in the Android Operating System -- IsCASMc: A Web-Based Probabilistic Model Checker -- Invariants, Well-Founded Statements and Real-Time Program Algebra -- Checking Liveness Properties of Presburger Counter Systems Using Reachability Analysis -- A Symbolic Algorithm for the Analysis of Robust Timed Automata -- Revisiting Compatibility of Input-Output Modal Transition Systems -- Co-induction Simply: Automatic Co-inductive Proofs in a Program Verifier -- Management of Time Requirements in Component-Based Systems -- Compositional Synthesis of Concurrent Systems through Causal Model Checking and Learning -- Formal Verification of Operational Transformation -- Verification of a Transactional Memory Manager under Hardware Failures and Restarts -- SCJ: Memory-Safety Checking without Annotations -- Refactoring, Refinement and Reasoning: A Logical Characterization for Hybrid Systems -- Object Propositions -- Flexible Invariants through Semantic Collaboration -- Efficient Tight Field Bounds Computation Based on Shape Predicates -- A Graph-Based Transformation Reduction to Reach UPPAAL States Faster -- Computing Quadratic Invariants with Min- and Max-Policy Iterations: A Practical Comparison -- Efficient Self-composition for Weakest Precondition Calculi -- Towards a Formal Analysis of Information Leakage for Signature Attacks in Preferential Elections -- Analyzing Clinical Practice Guidelines Using a Decidable Metric Interval-Based Temporal Logic -- A Modular Theory of Object Orientation in Higher-Order UTP -- Formalizing and Verifying a Modern Build Language -- The Wireless Fire Alarm System: Ensuring Conformance to Industrial Standards through Formal Verification -- Formally Verifying Graphics FPU: An Intel® Experience -- MDP-Based Reliability Analysis of an Ambient Assisted Living System -- Diagnosing Industrial Business Processes: Early Experiences -- Formal Verification of Lunar Rover Control Software Using UPPAAL -- Formal Verification of a Descent Guidance Control Program of a Lunar Lander.

Sommario/riassunto

This book constitutes the refereed proceedings of the 19th International Symposium on Formal Methods, FM 2014, held in Singapore, May 2014. The 45 papers presented together with 3 invited talks were carefully reviewed and selected from 150 submissions. The focus of the papers is on the following topics: Interdisciplinary Formal Methods, Practical Applications of Formal Methods in Industrial and Research Settings, Experimental Validation of Tools and Methods as well as Construction and Evolution of Formal Methods Tools.
