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Nota di contenuto	Keynotes -- Symbolic Computation in Automated Program Reasoning -- The next big thing: from embedded systems to embodied actors -- Intelligent and Dependable Decision-Making Under Uncertainty -- A Coq formalization of Lebesgue Induction Principle and Tonelli’s Theorem -- SAT/SMT -- Railway Scheduling Using Boolean Satisfiability Modulo Simulations -- SMT Sampling via Model-Guided Approximation -- Efficient SMT-based Network Fault Tolerance Verification -- Verification I -- Formalising the Prevention of Microarchitectural Timing

Channels by Operating Systems -- Can we Communicate? Using Dynamic Logic to Verify Team Automata -- The ScalaFix equation solver -- HHLPy: Practical Verification of Hybrid Systems using Hoare Logic -- Quantitative Verification -- symQV: Automated Symbolic Verification of Quantum Programs -- PFL: a Probabilistic Logic for Fault Trees -- Energy BuechiProblems -- QMaude: quantitative specification and verification in rewriting logic -- Concurrency and Memory Models -- Minimisation of Spatial Models using Branching Bisimilarity -- Reasoning about Promises in Weak Memory Models with Event Structures -- A fine-grained semantics for arrays and pointers under weak memory models -- VeyMont: Parallelising Verified Programs instead of Verifying Parallel Programs -- Verification 2 -- Verifying At the Level of Java Bytecode -- Abstract Alloy Instances -- Monitoring the Internet Computer -- Word Equations in Synergy with Regular Constraints -- Formal Methods in AI -- Verifying Feedforward Neural Networks for Classification in Isabelle/HOL -- SMPT: A Testbed for Reachabilty Methods in Generalized Petri Nets -- The Octatope Abstract Domain for Verification of Neural Networks -- Program Semantics and Verification Technique for AI-centred Programs -- Safety and Reliability -- Tableaux for Realizability of Safety Specifications -- A Decision Diagram Operation for Reachability -- Formal Modelling of Safety Architecture for Responsibility-Aware Autonomous Vehicle via Event-B Refinement -- A Runtime Environment for Contract Automata -- Industry Day -- Formal and Executable Semantics of the Ethereum Virtual Machine in Dafny -- Shifting Left for Early Detection of Machine-Learning Bugs -- A Systematic Approach to Automotive Security -- Specification-Guided Critical Scenario Identification for Automated Driving -- Runtime Monitoring for Out-of-Distribution Detection in Object Detection Neural Networks -- Backdoor Mitigation in Deep Neural Networks via Strategic Retraining -- veriFIRE: Verifying an Industrial, Learning-Based Wildfire Detection System.

Sommario/riassunto

This book constitutes the refereed proceedings of the 25th International Symposium on Formal Methods, FM 2023, which took place in Lübeck, Germany, in March 2023. The 26 full paper, 2 short papers included in this book were carefully reviewed and selected rom 95 submissions. They have been organized in topical sections as follows: SAT/SMT; Verification; Quantitative Verification; Concurrency and Memory Models; Formal Methods in AI; Safety and Reliability. The proceedings also contain 3 keynote talks and 7 papers from the industry day. .