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Altri autori (Persone)	ChaudhuriSwarat
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Soggetti	Software engineering Computer science Computer engineering Computer networks Artificial intelligence Computer simulation Software Engineering Theory of Computation Computer Engineering and Networks Artificial Intelligence Computer Modelling
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Nota di contenuto	Non-linear Activation Functions -- Open and Closed-Loop Neural Network Verification using Polynomial Zonotopes -- Verifying Attention Robustness of Deep Neural Networks against Semantic Perturbations -- Formalizing Piecewise Affne Activation Functions of Neural Networks in Coq -- Verifying an Aircraft Collision Avoidance Neural Network with Marabou -- Strategy Synthesis in Markov Decision Processes Under Limited Sampling Access -- Learning Symbolic Timed Models from Concrete Timed Data -- Reward Shaping from Hybrid Systems Models in Reinforcement Learning -- Conservative Safety Monitors of Stochastic Dynamical Systems -- Code-level Formal Verification of

Ellipsoidal Invariant Sets for Linear Parameter-Varying Systems -- Reasoning with Metric Temporal Logic and Resettable Skewed Clocks -- Formal Guarantees for Centralized Multi-Agent Synthesis with Spatial Constraints via Mixed-Integer Quadratic Programming -- A Framework for Policy Based Negotiation -- Rewrite-Based Decomposition of Signal Temporal Logic Specifications -- Quantitative Verification and Strategy Synthesis for BDI Agents -- Multi-Objective Task Assignment and Multiagent Planning with Hybrid GPU-CPU Acceleration -- Reasoning over Test Specifications using Assume-Guarantee Contracts -- Formally Proved Memory Controllers: From the Standards to Silicon -- Formalising Liveness Properties in Event-B with the Reflexive EB4EB Framework -- Formalized High Level Synthesis with Applications to Cryptographic Hardware -- From Natural Language Requirements to the Verification of Programmable Logic Controllers: Integrating FRET into PLCverif -- Automata-Based Software Model Checking of Hyperproperties -- Condition Synthesis Realizability via Constrained Horn Clauses -- A Toolkit for Automated Testing of Dafny -- Verified ALL(\*) Parsing with Semantic Actions and Dynamic Input Validation -- Subtropical Satisfiability for SMT Solving -- A Linear Weight Transfer Rule for Local Search -- 1.1 : Zero-suppressed Decision Diagrams in External Memory -- Satisfiability of Non-Linear Transcendental Arithmetic as a Certificate Search Problem.

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Sommario/riassunto

This book constitutes the proceedings of the 15th International Symposium on NASA Formal Methods, NFM 2023, held in Houston, Texas, USA, during May 16-18, 2023. The 26 full and 3 short papers presented in this volume were carefully reviewed and selected from 75 submissions. The papers deal with advances in formal methods, formal methods techniques, and formal methods in practice. .

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