1.
Record Nr.	UNINA9910728938503321
Autore	Rozier Kristin Yvonne
Titolo	NASA Formal Methods : 15th International Symposium, NFM 2023, Houston, TX, USA, May 16–18, 2023, Proceedings / / edited by Kristin Yvonne Rozier, Swarat Chaudhuri
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2023
ISBN	3-031-33170-2
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (508 pages)
Collana	Lecture Notes in Computer Science, , 1611-3349 ; ; 13903
Altri autori (Persone)	ChaudhuriSwarat
Disciplina	004.0151
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
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
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.

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. .