1. Record Nr.	UNISA996664549803316
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Titolo	NASA Formal Methods : 17th International Symposium, NFM 2025, Williamsburg, VA, USA, June 11–13, 2025, Proceedings / / edited by Aaron Dutle, Laura Humphrey, Laura Titolo
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2025
ISBN	3-031-93706-6
Edizione	[1st ed. 2025.]
Descrizione fisica	1 online resource (820 pages)
Collana	Lecture Notes in Computer Science, , 1611-3349 ; ; 15682
Altri autori (Persone)	HumphreyLaura TitoloLaura
Disciplina	005.1
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	Enforcing MAVLink Safety & Security Properties Via Refined Multiparty Session Types -- Process-Algebraic Semantics for Verifying Intelligent Robotic Control Software -- Towards a Safe, Verified Runtime Monitor for Embedded Systems: R2U2 in Embedded Rust -- Verification of an Anti-Unification Algorithm in PVS -- Strong Structural Bounds for MaxSAT: The Fine Details of Using Neuromorphic and Quantum Hardware Accelerators -- Vellvm: Formalizing the Informal LLVM (Experience Report) -- Eliminating flakiness: deterministic control for validating nondeterministic Asmeta specifications -- Mode-based Reactive Synthesis -- Reusable Formal Verification of DAG-based

Consensus Protocols -- A Streamlined, Formal Approach to Requirements-based Testing -- Formally Proving Invariant Systemic Properties of Control Programs Using Ghost Code and Integral Quadratic Constraints -- Querying Labeled Time Series Data with Scenario Programs -- Formal Verification as a Service: A CERN-GSI Case Study -- Formal Verification of Composite Field Multipliers for Information-Theoretically Secure Radio Communication in Spacecraft Control -- Rare Event Simulation for Stochastic Hybrid Systems using Symbolic Importance Functions -- Algorithmic Analysis of Event-B in Rewriting Logic -- HyTwin: A Formal Semantics for Digital Twin Interventions in ICS Based on Time-to-Violation -- Language Partitioning for Mission-time Linear Temporal Logic -- Visualizing Temporal Interval Hierarchies -- Mechanized RS274 semantics for additive manufacturing -- An SMT Formalization of Mixed-Precision Matrix Multiplication (Modeling Three Generations of Tensor Cores) -- TRACE: Toolkit for Requirements Analysis, Capture, and Elicitation -- Extending Dynamic Logics with First-Class Relational Reasoning -- Automata Size Reduction by Procedure Finding.

| Sommario/riassunto | This book constitutes the proceedings of the 17th International Symposium on NASA Formal Methods, NFM 2025, held in Hampton Roads, VA, USA in June 2025. The 20 full papers and 4 short papers presented in the proceedings were carefully reviewed and selected from 74 submissions. They focus on formal techniques for software and system assurance for applications in space, aviation, robotics, and other NASA-relevant critical systems. . |