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Autore	Katsaros Panagiotis
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Soggetti	Software engineering Machine theory Computer science Artificial intelligence Algorithms Compilers (Computer programs) Software Engineering Formal Languages and Automata Theory Computer Science Logic and Foundations of Programming Artificial Intelligence Compilers and Interpreters
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Nota di contenuto	Assumption Generation for Learning-Enabled Autonomous Systems -- Customizable Reference Runtime Monitoring of Neural Networks using Resolution Boxes -- Scalable Stochastic Parametric Verification with Stochastic Variational Smoothed Model Checking -- Monitoring Blackbox Implementations of Multiparty Session Protocols -- Specification Parameters for Multi-Class Classification -- General Anticipatory Monitoring for Temporal Logics on Finite Traces -- Metric First-order Temporal Logic with Complex Data Types -- Runtime Verification Prediction for Traces with Data -- Monitoring Hyperproperties With Prefix Transducers -- Compositional Simulation-Based Analysis of AI-Based Autonomous Systems for Markovian

Specifications -- Decentralized Predicate Detection over Partially Synchronous Continuous-Time Signals -- Flexible Runtime Security Enforcement with Tagged C -- Pattern Matching for Perception Streams -- Learning Monitor Ensembles for Operational Design Domains -- Monitoring Algorithmic Fairness underPartial Observations -- AMT: a Runtime Verification Tool of Video Streams -- Bridging the Gap: A Focused DSL for RV-Oriented Instrumentation with BISM -- CCMOP: A Runtime Verification Tool for C/C++ Programs -- A Stream Runtime Verification Tool with Nested and Retroactive Parametrizations -- eMOP: A Maven Plugin for Evolution-Aware Runtime Verification -- Runtime Monitoring of Accidents in Driving Recordings with Multi-Type Logic in Empirical Models -- Safety Monitoring for Pedestrian Detection in Adverse Conditions -- Instrumentation for RV: From Basic Monitoring to Advanced Use Cases -- Runtime Monitoring DNN-based Perception -- Monitorability for Runtime Verification -- Learning-Based Approaches to Predictive Monitoring with Conformal Statistical Guarantees.

Sommario/riassunto

This book constitutes the refereed proceedings of the 23rd International Conference on Runtime Verification, RV 2023, held in Thessaloniki, Greece, during October 3–6, 2023. The 13 full papers and 7 short papers presented in this book together with 4 tutorial papers and 2 invited papers were carefully reviewed and selected from 39 submissions. The RV conference is concerned with all aspects of novel lightweight formal methods to monitor, analyze, and guide the runtime behavior of software and hardware systems. Runtime verification techniques are crucial for system correctness, reliability, and robustness; they provide an additional level of rigor and effectiveness compared to conventional testing and are generally more practical than exhaustive formal verification.