1. Record Nr. UNISA996418283403316

Titolo	Runtime verification : 20th International Conference, RV 2020, Los Angeles, CA, USA, October 6-9, 2020, proceedings / / Jyotirmoy Deshmukh, Dejan Nickovic (editors)
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2020] ©2020
ISBN	3-030-60508-6
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (XIX, 538 p. 1354 illus., 133 illus. in color.)
Collana	Programming and Software Engineering ; ; 12399
Disciplina	005.14
Soggetti	Computer software - Verification
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Invited Presentation -- Fantastic Failures and Where to Find Them: Designing Trustworthy Autonomy -- Monitorability Under Assumptions -- Tutorials -- Monitoring Spatio-Temporal Properties (Invited Tutorial) -- Assurance of Distributed Algorithms and Systems: Runtime Checking of Safety and Liveness -- Analysing the Performance of Python-based Web Services with the VyPR Framework -- Monitoring Cyber-Physical Systems: From Design to Integration -- BDDs for Representing Data in Runtime Verification -- Runtime Verification for Autonomy -- Runtime-Safety-Guided Policy Repair -- PatrIoT: Policy Assisted Resilient Programmable IoT System -- Runtime Verification of Autonomous Driving Systems in CARLA SOTER on ROS: A Run-Time Assurance Framework on the Robot Operating System -- Runtime Verification for Software -- Scalable Online Monitoring of Distributed Systems -- Actor-based Runtime Verification with MESA -- Placement of Runtime Checks to Counteract Fault Injections -- Empirical Abstraction -- Test4Enforcers: Test Case Generation for Software Enforcers -- SharpDetect: Dynamic Analysis Framework for C#/.NET Programs -- Efficient Runtime Assertion Checking for Properties over Mathematical Numbers -- BISM: Bytecode-Level Instrumentation for Software Monitoring -- Runtime Verification with Temporal Logic Specifications -- Property-Directed Verified Monitoring of Signal Temporal Logic -- Logical Signal Processing: a Fourier Analysis of

Temporal Logic -- A Verified Online Monitor for Metric Temporal Logic with Quantitative Semantics -- TLTk: A Toolbox for Parallel Robustness Computation of Temporal Logic Specifications MoonLight: A Lightweight Tool for Monitoring Spatio-Temporal Properties -- Stream-based Monitoring -- Verified Rust Monitors for Lola Specifications -- Automatic Optimizations for Stream-based Monitoring Languages -- Unifying the Time-Event Spectrum for Stream Runtime Verification -- A Benchmark Generator for Online First-Order Monitoring -- Runtime Verification for Cyber-Physical Systems -- Efficient System Verification with Multiple Weakly-Hard Constraints for Runtime Monitoring -- Formal Verification of a Mixed-Trust Synchronization Protocol.

Sommario/riassunto

This book constitutes the refereed proceedings of the 20th International Conference on Runtime Verification, RV 2020, held in Los Angeles, CA, USA, in October 2020. The conference was held virtually due to the COVID-19 pandemic. The 14 regular papers and 2 short papers presented in this book were carefully reviewed and selected from 43 submissions. Also included are an invited paper, 5 tutorial papers, 6 tool papers, and a benchmark paper. The RV conference is concerned with all aspects of monitoring and analysis of hardware, software and more general system executions. The papers are organized in the following topical sections: runtime verification for autonomy; runtime verification for software; runtime verification with temporal logic specifications; stream-based monitoring; and runtime verification for cyber-physical systems.