1. Record Nr. UNINA9910555235803321

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| Titolo | Tools and Algorithms for the Construction and Analysis of Systems : 28th International Conference, TACAS 2022, Held as Part of the European Joint Conferences on Theory and Practice of Software, ETAPS 2022, Munich, Germany, April 2–7, 2022, Proceedings, Part I / / edited by Dana Fisman, Grigore Rosu |
| Pubbl/distr/stampa | Cham : , : Springer International Publishing : , : Imprint : Springer, , 2022 |
| ISBN | 3-030-99524-0 |
| Edizione | [1st ed. 2022.] |
| Descrizione fisica | 1 online resource (xxii, 583 pages) : illustrations |
| Collana | Lecture Notes in Computer Science, , 1611-3349 ; ; 13243 |
| Altri autori (Persone) | FismanDana<br>RosuGrigore |
| Disciplina | 004.0151 |
| Soggetti | Computer science<br>Microprogramming<br>Computer engineering<br>Computer networks<br>Computer simulation<br>Software engineering<br>Theory of Computation<br>Control Structures and Microprogramming<br>Computer Engineering and Networks<br>Computer Modelling<br>Software Engineering |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Note generali | Description based upon print version of record.<br>Includes author index. |
| Nota di contenuto | Synthesis -- HOLL: Program Synthesis for Higher Order Logic Locking -- The Complexity of LTL Rational Synthesis -- Synthesis of Compact Strategies for Coordination Programs -- ZDD Boolean Synthesis -- Verification -- Comparative Verification of the Digital Library of Mathematical -- Functions and Computer Algebra Systems -- Verifying Fortran Programs with CIVL -- NORMA: a tool for the analysis of Relay- |

based Railway Interlocking Systems -- Efficient Neural Network Analysis with Sum-of-Infeasibilities -- Blockchain -- Formal Verification of the Ethereum 2.0 Beacon Chain -- Fast and Reliable Formal Verification of Smart Contracts with the Move Prover -- A Max-SMT Superoptimizer for EVM handling Memory and Storage -- Grammatical Inference -- A New Approach for Active Automata Learning Based on Apartness -- Learning Realtime One-Counter Automata -- Scalable Anytime Algorithms for Learning Fragments of Linear Temporal Logic -- and Daniel NeiderLearning Model Checking and the Kernel Trick for Signal Temporal Logic on Stochastic Processes -- Verification Inference -- Inferring Interval-Valued Floating-Point Preconditions -- NeuReach: Learning Reachability Functions from Simulations -- Quantifier Alternations: Taming the Search Space Explosion -- LinSyn: Synthesizing Tight Linear Bounds for Arbitrary Neural Network Activation Functions -- Short papers -- Kmclib: Automated Inference and Verification of Session Types from OCaml Programs -- Automated Translation of Natural Language Requirements to Runtime Monitors -- MaskD: A Tool for Measuring Masking Fault-Tolerance -- Better Counterexamples for Dafny -- Constraint Solving -- cvc5: A Versatile and Industrial-Strength SMT Solver -- Clausal Proofs for Pseudo-Boolean Reasoning -- Moving Definition Variables in Quantified Boolean Formulas -- A Sorted Datalog Hammer for Supervisor Verification Conditions Modulo Simple Linear Arithmetic -- Model checking and verification -- Property Directed Reachability for Generalized Petri Nets -- Transition Power Abstractions for Deep Counterexample Detection -- Searching for Ribbon-Shaped Paths in Fair Transition Systems -- CoVeriTeam: On-Demand Composition of Cooperative Verification Systems.

Sommario/riassunto

This open access book constitutes the proceedings of the 28th International Conference on Tools and Algorithms for the Construction and Analysis of Systems, TACAS 2022, which was held during April 2-7, 2022, in Munich, Germany, as part of the European Joint Conferences on Theory and Practice of Software, ETAPS 2022. The 46 full papers and 4 short papers presented in this volume were carefully reviewed and selected from 159 submissions. The proceedings also contain 16 tool papers of the affiliated competition SV-Comp and 1 paper consisting of the competition report. TACAS is a forum for researchers, developers, and users interested in rigorously based tools and algorithms for the construction and analysis of systems. The conference aims to bridge the gaps between different communities with this common interest and to support them in their quest to improve the utility, reliability, exibility, and efficiency of tools and algorithms for building computer-controlled systems.