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Collana	Theoretical Computer Science and General Issues, , 2512-2029 ; ; 12178
Disciplina	005.1
Soggetti	Computer science Computer engineering Computer networks Microprogramming Numerical analysis Logic programming Software engineering Theory of Computation Computer Engineering and Networks Control Structures and Microprogramming Numerical Analysis Logic in AI Software Engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Sorting Parity Encodings by Reusing Variables -- Community and LBD-based Clause Sharing Policy for Parallel SAT Solving -- Clause size reduction with all-UIP Learning -- Trail Saving on Backtrack -- Four Flavors of Entailment -- Designing New Phase Selection Heuristics -- On the Effect of Learned Clauses on Stochastic Local Search -- SAT Heritage: a community-driven effort for archiving, building and running more than thousand SAT solvers -- Distributed Cube and Conquer with

Paracooba -- Reproducible Efficient Parallel SAT Solving -- Improving Implementation of SAT Competitions 2017-2019 Winners -- On CDCL-based Proof Systems with the Ordered Decision Strategy -- Equivalence Between Systems Stronger Than Resolution -- Simplified and Improved Separations Between Regular and General Resolution by Lifting -- Mycielski graphs and PR proofs -- Towards a Better Understanding of (Partial Weighted) MaxSAT Proof Systems -- Towards a Complexity-theoretic Understanding of Restarts in SAT solvers -- On the Sparsity of XORs in Approximate Model Counting -- A Faster Algorithm for Propositional Model Counting Parameterized by Incidence Treewidth -- Abstract Cores in Implicit Hitting Set MaxSat Solving -- MaxSAT Resolution and SubCube Sums -- A Lower Bound on DNNF Encodings of Pseudo-Boolean Constraints -- On Weakening Strategies for PB Solvers -- Reasoning About Strong Inconsistency in ASP -- Taming High Treewidth with Abstraction, Nested Dynamic Programming, and Database Technology -- Reducing Bit-Vector Polynomials to SAT using Groebner Bases -- Speeding Up Quantified Bit-Vector SMT Solvers by Bit-Width Reductions and Extensions -- Strong (D)QBF Dependency Schemes via Tautology-free Resolution Paths -- Short Q-Resolution Proofs with Homomorphisms -- Multi-Linear Strategy Extraction for QBF Expansion Proofs via Local Soundness -- Positional Games and QBF: The Corrective Encoding -- Matrix Multiplication: Verifying Strong Uniquely Solvable Puzzles -- Satisfiability Solving Meets Evolutionary Optimisation in Designing Approximate Circuits -- SAT Solving with Fragmented Hamiltonian Path Constraints for Wire Arc Additive Manufacturing -- SAT-based Encodings for Optimal Decision Trees with Explicit Paths -- Incremental Encoding of Pseudo-Boolean Goal Functions based on Comparator Networks. .

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## Sommario/riassunto

This book constitutes the proceedings of the 23rd International Conference on Theory and Applications of Satisfiability Testing, SAT 2020, which was planned to take place in Alghero, Italy, during July 5-9, 2020. Due to the coronavirus COVID-19 pandemic, the conference was held virtually. The 25 full, 9 short, and 2 tool papers presented in this volume were carefully reviewed and selected from 69 submissions. They deal with SAT interpreted in a broad sense, including theoretical advances (such as exact algorithms, proof complexity, and other complexity issues), practical search algorithms, knowledge compilation, implementation-level details of SAT solvers and SAT-based systems, problem encodings and reformulations, applications (including both novel application domains and improvements to existing approaches), as well as case studies and reports on findings based on rigorous experimentation. .

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