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| Soggetti | Machine theory
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| Nota di bibliografia | Includes bibliographical references and index. |
| Nota di contenuto | Invited Talks -- SAT Modulo Theories: Enhancing SAT with Special-Purpose Algorithms -- Symbolic Techniques in Propositional Satisfiability Solving -- Applications of SAT -- Efficiently Calculating Evolutionary Tree Measures Using SAT -- Finding Lean Induced Cycles in Binary Hypercubes -- Finding Efficient Circuits Using SAT-Solvers -- Encoding Treewidth into SAT -- Complexity Theory -- The Complexity of Reasoning for Fragments of Default Logic -- Does Advice Help to Prove Propositional Tautologies? -- Structures for SAT -- Backdoors in |

the Context of Learning -- Solving SAT for CNF Formulas with a One-Sided Restriction on Variable Occurrences -- On Some Aspects of Mixed Horn Formulas -- Variable Influences in Conjunctive Normal Forms -- Resolution and SAT -- Clause-Learning Algorithms with Many Restarts and Bounded-Width Resolution -- An Exponential Lower Bound for Width-Restricted Clause Learning -- Improved Conflict-Clause Minimization Leads to Improved Propositional Proof Traces -- Boundary Points and Resolution -- Translations to CNF -- Sequential Encodings from Max-CSP into Partial Max-SAT -- Cardinality Networks and Their Applications -- New Encodings of Pseudo-Boolean Constraints into CNF -- Efficient Term-ITE Conversion for Satisfiability Modulo Theories -- Techniques for Conflict-Driven SAT Solvers -- On-the-Fly Clause Improvement -- Dynamic Symmetry Breaking by Simulating Zykov Contraction -- Minimizing Learned Clauses -- Extending SAT Solvers to Cryptographic Problems -- Solving SAT by Local Search -- Improving Variable Selection Process in Stochastic Local Search for Propositional Satisfiability -- A Theoretical Analysis of Search in GSAT -- The Parameterized Complexity of k-Flip Local Search for SAT and MAX SAT -- Hybrid SAT Solvers -- A Novel Approach to Combine a SLS- and a DPLL-Solver for the Satisfiability Problem -- Building a Hybrid SAT Solver via Conflict-Driven, Look-Ahead and XOR Reasoning Techniques -- Automatic Adaption of SAT Solvers -- Restart Strategy Selection Using Machine Learning Techniques -- Instance-Based Selection of Policies for SAT Solvers -- Width-Based Restart Policies for Clause-Learning Satisfiability Solvers -- Problem-Sensitive Restart Heuristics for the DPLL Procedure -- Stochastic Approaches to SAT Solving -- (1,2)-QSAT: A Good Candidate for Understanding Phase Transitions Mechanisms -- VARSAT: Integrating Novel Probabilistic Inference Techniques with DPLL Search -- QBFs and Their Representations -- Resolution and Expressiveness of Subclasses of Quantified Boolean Formulas and Circuits -- A Compact Representation for Syntactic Dependencies in QBFs -- Beyond CNF: A Circuit-Based QBF Solver -- Optimisation Algorithms -- Solving (Weighted) Partial MaxSAT through Satisfiability Testing -- Nonlinear Pseudo-Boolean Optimization: Relaxation or Propagation? -- Relaxed DPLL Search for MaxSAT -- Branch and Bound for Boolean Optimization and the Generation of Optimality Certificates -- Exploiting Cycle Structures in Max-SAT -- Generalizing Core-Guided Max-SAT -- Algorithms for Weighted Boolean Optimization -- Distributed and Parallel Solving -- PaQuBE: Distributed QBF Solving with Advanced Knowledge Sharing -- c-sat: A Parallel SAT Solver for Clusters.

Sommario/riassunto	This book constitutes the refereed proceedings of the 12th International Conference on Theory and Applications of Satisfiability Testing, SAT 2009, held in Swansea, UK, in June/July 2009. The 34 revised full papers presented together with 11 revised short papers and 2 invited talks were carefully selected from 86 submissions. The papers are organized in topical sections on applications of SAT, complexity theory, structures for SAT, resolution and SAT, translations to CNF, techniques for conflict-driven SAT Solvers, solving SAT by local search, hybrid SAT solvers, automatic adaption of SAT solvers, stochastic approaches to SAT solving, QBFs and their representations, optimization algorithms, distributed and parallel solving.