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Soggetti	Artificial intelligence Machine theory Computer science Software engineering Logic, Symbolic and mathematical Artificial Intelligence Formal Languages and Automata Theory Computer Science Logic and Foundations of Programming Software Engineering Mathematical Logic and Foundations
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Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Invited Talks -- Program Termination Analysis by Size-Change Graphs (Abstract) -- SET Cardholder Registration: The Secrecy Proofs -- SET Cardholder Registration: The Secrecy Proofs -- Algorithms, Datastructures, and other Issues in Efficient Automated Deduction -- Algorithms, Datastructures, and other Issues in Efficient Automated Deduction -- Description, Modal and temporal Logics -- The Description Logic ALCNH R + Extended with Concrete Domains: A Practically Motivated Approach -- NExpTime-Complete Description Logics with Concrete Domains -- Exploiting Pseudo Models for TBox and ABox Reasoning in Expressive Description Logics -- Exploiting Pseudo Models for TBox and ABox Reasoning in Expressive Description

Logics -- The Hybrid ?-Calculus -- The Hybrid ?-Calculus -- The Inverse Method Implements the Automata Approach for Modal Satisfiability -- The Inverse Method Implements the Automata Approach for Modal Satisfiability -- Deduction-Based Decision Procedure for a Clausal Miniscoped Fragment of FTL -- Deduction-Based Decision Procedure for a Clausal Miniscoped Fragment of FTL -- Tableaux for Temporal Description Logic with Constant Domains -- Tableaux for Temporal Description Logic with Constant Domains -- Free-Variable Tableaux for Constant-Domain Quantified Modal Logics with Rigid and Non-rigid Designation -- Free-Variable Tableaux for Constant-Domain Quantified Modal Logics with Rigid and Non-rigid Designation -- Saturation Based Theorem Proving, Applications, and Data Structures -- Instructing Equational Set-Reasoning with Otter -- NP-Completeness of Refutability by Literal-Once Resolution -- Ordered Resolution vs. Connection Graph resolution -- A Model-Based Completeness Proof of Extended Narrowing and Resolution -- A Model-Based Completeness Proof of Extended Narrowing and Resolution.-A Resolution-Based Decision Procedure for the Two-Variable Fragment with Equality -- A Resolution-Based Decision Procedure for the Two-Variable Fragment with Equality -- Superposition and Chaining for Totally Ordered Divisible Abelian Groups -- Superposition and Chaining for Totally Ordered Divisible Abelian Groups -- Context Trees -- Context Trees -- On the Evaluation of Indexing Techniques for Theorem Proving -- On the Evaluation of Indexing Techniques for Theorem Proving -- Logic Programming and Nonmonotonic Reasoning -- Preferred Extensions of Argumentation Frameworks: Query, Answering, and Computation -- Bunched Logic Programming -- A Top-Down Procedure for Disjunctive Well-Founded Semantics -- A Second-Order Theorem Prover Applied to Circumscription -- NoMoRe: A System for Non-Monotonic Reasoning with Logic Programs under Answer Set Semantics -- NoMoRe: A System for Non-Monotonic Reasoning with Logic Programs under Answer Set Semantics -- Propositional Satisfiability and Quantified Boolean Logic -- Conditional Pure Literal Graphs -- Evaluating Search Heuristics and Optimization Techniques in Propositional Satisfiability -- QuBE: A System for Deciding Quantified Boolean Formulas Satisfiability -- System Abstract: E 0.61 -- Vampire 1.1 -- DCTP - A Disconnection Calculus Theorem Prover - System Abstract -- DCTP - A Disconnection Calculus Theorem Prover - System Abstract -- Logical Frameworks, Higher-Order Logic, Interactive Theorem Proving -- More On Implicit Syntax -- Termination and Reduction Checking for Higher-Order Logic Programs -- P.rex: An Interactive Proof Explainer -- JProver: Integrating Connection-Based Theorem Proving into Interactive Proof Assistants -- Semantic Guidance -- The eXtended Least Number Heuristic -- System Description: SCOTT-5 -- Combination of Distributed Search and Multi-Search in Peers-mcd.d -- Lotrec: The Generic Tableau Prover for Modal and Description Logics -- The modprof Theorem Prover -- A New System and Methodology for Generating Random Modal Formulae -- Equational Theorem Proving and Term Rewriting -- Decidable Classes of Inductive Theorems -- Automated Incremental Termination Proofs for Hierarchically Defined Term Rewriting Systems -- Decidability and Complexity of Finitely Closable Linear Equational Theories -- A New Meta-Complexity Theorem for Bottom-Up Logic Programs -- Tableau, Sequent, Natural Deduction Calculi and Proof Theory -- Canonical Propositional Gentzen-Type Systems -- Incremental Closure of Free Variable Tableaux -- Deriving Modular Programs from Short Proofs -- A General Method for Using Schematizations in Automated Deduction -- Automata, Specification, Verification, and Logics of Programs --

Approximating Dependency Graphs Using Tree Automata Techniques -- On the Use of Weak Automata for Deciding Linear Arithmetic with Integer and Real Variables -- A Sequent Calculus for First-Order Dynamic Logic with Trace Modalities -- Flaw Detection in Formal Specifications -- CCE: Testing Ground Joinability -- System Description: RDL Rewrite and Decision Procedure Laboratory -- lolliCoP — A Linear Logic Implementation of a Lean Connection-Method Theorem Prover for First-Order Classical Logic -- Nonclassical Logics -- Muscadet 2.3: A Knowledge-Based Theorem Prover Based on Natural Deduction -- Hilberticus - A Tool Deciding an Elementary Sublanguage of Set Theory -- STRIP: Structural Sharing for Efficient Proof-Search -- RACER System Description.

Sommario/riassunto

The last ten years have seen a gradual fragmentation of the Automated Reas- ing community into various disparate groups, each with its own conference: the Conference on Automated Reasoning (CADE), the International Workshop on First-Order Theorem Proving (FTP), and the International Conference on - tomated Reasoning with Analytic Tableau and Related Methods (TABLEAUX) to name three. During 1999, various members of these three communities d- cussed the idea of holding a joint conference in 2001 to bring our communities togetheragain. Theplanwastoholdaone-o'conferencefor2001,toberepeated ifitprovedasuccess.
Thisvolumecontainsthepaperspresentedattheresulting event: the'rstInternationalJointConferenceonAutomatedReasoning(IJCAR 2001), held in Siena, Italy, from June 18-23, 2001. We received 88 research papers and 24 systems descriptions as submissions. Each submission was fully refereed by at least three peers who were asked to writeareportonthequalityofthesubmissions. Thesereportswereaccessibleto membersoftheprogrammecommitteeviaaweb-basedsystemspeciallydesigned for electronic discussions. As a result we accepted 37 research papers and 19 system descriptions, which make up these proceedings. In addition, this volume contains full papers or extended abstracts from the ?ve invited speakers. Tenone-dayworkshopsandfourtutorialswerehelddduringIJCAR2001.The automatedtheoremprovingsystemcompetition(CASC) wasorganizedbyGeo? Sutcli'e to evaluate the performance of sound, fully automatic, classical, ?r- order automated theorem proving systems. The third Workshop on Inference in Computational Semantics (ICoS-3) and the 9th Symposium on the Integration of Symbolic Computation and Mechanized Reasoning (CALCULEMUS-2001) were co-located with IJCAR 2001, and held their own associated workshops and produced their own separate proceedings.