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Collana	Lecture Notes in Artificial Intelligence ; ; 6173
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Soggetti	Artificial intelligence Architecture, Computer Computer programming Mathematical logic Computer logic Logic design Artificial Intelligence Computer System Implementation Programming Techniques Mathematical Logic and Formal Languages Logics and Meanings of Programs Logic Design
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Logical Frameworks and Combination of Systems -- Curry-Style Explicit Substitutions for the Linear and Affine Lambda Calculus -- Beluga: A Framework for Programming and Reasoning with Deductive Systems (System Description) -- MCMT: A Model Checker Modulo Theories -- On Hierarchical Reasoning in Combinations of Theories -- Description Logic I -- Global Caching for Coalgebraic Description Logics -- Tractable Extensions of the Description Logic with Numerical Datatypes

-- Higher-Order Logic -- Analytic Tableaux for Higher-Order Logic with Choice -- Monotonicity Inference for Higher-Order Formulas -- Sledgehammer: Judgement Day -- Invited Talk -- Logic between Expressivity and Complexity -- Verification -- Multi-Prover Verification of Floating-Point Programs -- Verifying Safety Properties with the TLA? +? Proof System -- MUNCH - Automated Reasoner for Sets and Multisets -- A Slice-Based Decision Procedure for Type-Based Partial Orders -- Hierarchical Reasoning for the Verification of Parametric Systems -- First-Order Logic -- Interpolation and Symbol Elimination in Vampire -- iProver-Eq: An Instantiation-Based Theorem Prover with Equality -- Classical Logic with Partial Functions -- Non-Classical Logic -- Automated Reasoning for Relational Probabilistic Knowledge Representation -- Optimal and Cut-Free Tableaux for Propositional Dynamic Logic with Converse -- Terminating Tableaux for Hybrid Logic with Eventualities -- Herod and Pilate: Two Tableau Provers for Basic Hybrid Logic -- Induction -- Automated Synthesis of Induction Axioms for Programs with Second-Order Recursion -- Focused Inductive Theorem Proving -- Decision Procedures -- A Decidable Class of Nested Iterated Schemata -- RegSTAB: A SAT Solver for Propositional Schemata -- Linear Quantifier Elimination as an Abstract Decision Procedure -- A Decision Procedure for CTL* Based on Tableaux and Automata -- URBiVA: Uniform Reduction to Bit-Vector Arithmetic -- Keynote Talk -- Induction, Invariants, and Abstraction -- Arithmetic -- A Single-Significant-Digit Calculus for Semi-Automated Guesstimation -- Perfect Discrimination Graphs: Indexing Terms with Integer Exponents -- An Interpolating Sequent Calculus for Quantifier-Free Presburger Arithmetic -- Invited Talk -- Bugs, Moles and Skeletons: Symbolic Reasoning for Software Development -- Applications -- Automating Security Analysis: Symbolic Equivalence of Constraint Systems -- System Description: The Proof Transformation System CERES -- Premise Selection in the Naproche System -- On the Saturation of YAGO -- Description Logic II -- Optimized Description Logic Reasoning via Core Blocking -- An Extension of Complex Role Inclusion Axioms in the Description Logic -- Termination -- Decreasing Diagrams and Relative Termination -- Monotonicity Criteria for Polynomial Interpretations over the Naturals -- Termination Tools in Ordered Completion.

Sommario/riassunto

This volume contains the proceedings of the 5th International Joint Conference on Automated Reasoning (IJCAR 2010). IJCAR 2010 was held during July 16-19 as part of the 2010 Federated Logic Conference, hosted by the School of Informatics at the University of Edinburgh, Scotland. Support by the conference sponsors – EPSRC, NSF, Microsoft Research, Association for Symbolic Logic, CADE Inc. , Google, Hewlett-Packard, Intel – is gratefully acknowledged.

IJCAR is the premier international joint conference on all topics in automated reasoning, including foundations, implementations, and applications. Previous IJCAR conferences were held at Siena (Italy) in 2001, Cork (Ireland) in 2004, Seattle (USA) in 2006, and Sydney (Australia) in 2008. IJCAR comprises several leading conferences and workshops. In 2010, IJCAR was the fusion of the following events: –CADE: International Conference on Automated Deduction –FroCoS: International Symposium on Frontiers of Combining Systems –FTP: International Workshop on First-Order Theorem Proving – TABLEAUX:

International Conference on Automated Reasoning with Analytic Tableaux and Related Methods There were 89 submissions (63 regular papers and 26 system descriptions) of which 40 were accepted (28 regular papers and 12 system descriptions). Each submission was assigned to at least three Program Committee members, who carefully reviewed the

papers, with the help of 92 external referees. Afterwards, the submissions were discussed by the ProgramCommittee during two weeks by means of Andrei Voronkov's EasyChair system. We want to thank Andrei very much for providing his system, which was very helpful for the management of the submissions and reviews and for the discussion of the Program Committee.
