1. Record Nr. UNISA996418305603316

Titolo	Automated Reasoning [[electronic resource]] : 10th International Joint Conference, IJCAR 2020, Paris, France, July 1–4, 2020, Proceedings, Part II / / edited by Nicolas Peltier, Viorica Sofronie-Stokkermans
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2020
ISBN	3-030-51054-9
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (521 pages)
Collana	Lecture Notes in Artificial Intelligence ; ; 12167
Disciplina	004.015113
Soggetti	Mathematical logic Artificial intelligence Computer logic Software engineering Programming languages (Electronic computers) Computer programming Mathematical Logic and Formal Languages Artificial Intelligence Logics and Meanings of Programs Software Engineering Programming Languages, Compilers, Interpreters Programming Techniques
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Interactive Theorem Proving/ HOL -- Competing inheritance paths in dependent type theory: a case study in functional analysis -- A Lean tactic for normalising ring expressions with exponents (short paper) -- Practical proof search for Coq by type inhabitation -- Quotients of Bounded Natural Functors -- Trakhtenbrot’s Theorem in Coq -- Deep Generation of Coq Lemma Names Using Elaborated Terms -- Extensible Extraction of Efficient Imperative Programs with Foreign Functions, Manually Managed Memory, and Proofs -- Validating Mathematical Structures -- Teaching Automated Theorem Proving by Example: PyRes

1.2 (system description) -- Beyond Notations: Hygienic Macro Expansion for Theorem Proving Languages -- Formalizations -- Formalizing the Face Lattice of Polyhedra -- Algebraically Closed Fields in Isabelle/HOL -- Formalization of Forcing in Isabelle/ZF -- Reasoning about Algebraic Structures with Implicit Carriers in Isabelle/HOL -- Formal Proof of the Group Law for Edwards Elliptic Curves -- Verifying Farad_zev-Read type Isomorph-Free Exhaustive Generation -- Verification -- Verified Approximation Algorithms -- Efficient Verified Implementation of Introsort and Pdqsort -- A Fast Verified Liveness Analysis in SSA form -- Verification of Closest Pair of Points Algorithms -- Reasoning Systems and Tools -- A Polymorphic Vampire (short paper) -- N-PAT: A Nested Model-Checker (system description) -- HYPNO: Theorem Proving with Hypersequent Calculi for Non-Normal Modal Logics (system description) -- Implementing superposition in iProver (system description) -- Moin: A Nested Sequent Theorem Prover for Intuitionistic Modal Logics (system description) -- Make E Smart Again -- Automatically Proving and Disproving Feasibility Conditions -- µ-term: Verify Termination Properties Automatically (system description) -- ENIGMA Anonymous: Symbol-Independent Inference Guiding Machine (system description) -- The Imandra Automated Reasoning System (system description) -- A Programmer’s Text Editor for a Logical Theory: The SUMOjEdit Editor (system description) -- Sequoia: a playground for logicians (system description) -- Prolog Technology Reinforcement Learning Prover (system description).

Sommario/riassunto

This two-volume set LNAI 12166 and 12167 constitutes the refereed proceedings of the 10th International Joint Conference on Automated Reasoning, IJCAR 2020, held in Paris, France, in July 2020.* In 2020, IJCAR was a merger of the following leading events, namely CADE (International Conference on Automated Deduction), FroCoS (International Symposium on Frontiers of Combining Systems), ITP (International Conference on Interactive Theorem Proving), and TABLEAUX (International Conference on Analytic Tableaux and Related Methods). The 46 full research papers, 5 short papers, and 11 system descriptions presented together with two invited talks were carefully reviewed and selected from 150 submissions. The papers focus on the following topics: Part I: SAT; SMT and QBF; decision procedures and combination of theories; superposition; proof procedures; non classical logics Part II: interactive theorem proving/ HOL; formalizations; verification; reasoning systems and tools *The conference was held virtually due to the COVID-19 pandemic. Chapter ‘A Fast Verified Liveness Analysis in SSA Form’ is available open access under a Creative Commons Attribution 4.0 International License via link.springer.com.