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Theory and Applications of Satisfiability Testing – SAT 2010

13th International Conference, SAT 2010
Edinburgh, UK, July 11-14, 2010
Proceedings

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Library of Congress Control Number: 2010929579

CR Subject Classification (1998): F.2, C.2.4, H.4, F.3, F.1, F.4.1

LNCS Sublibrary: SL 1 – Theoretical Computer Science and General Issues

ISSN 0302-9743

ISBN-10 3-642-14185-4 Springer Berlin Heidelberg New York

ISBN-13 978-3-642-14185-0 Springer Berlin Heidelberg New York

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Printed in Germany

Typesetting: Camera-ready by author, data conversion by Scientific Publishing Services, Chennai, India

Printed on acid-free paper 06/3180

Preface

This volume contains the papers presented at SAT 2010, the 13th International Conference on Theory and Applications of Satisfiability Testing. SAT 2010 was held as part of the 2010 Federated Logic Conference (FLoC) and was hosted by the School of Informatics at the University of Edinburgh, Scotland. In addition to SAT, FLoC included the conferences CAV, CSF, ICLP, IJCAR, ITP, LICS, RTA, as well as over 50 workshops. Affiliated with SAT were the workshops LaSh (Logic and Search, co-affiliated with ICLP), LoCoCo (Logics for Component Configuration), POS (Pragmatics Of SAT), PPC (Propositional Proof Complexity: Theory and Practice), and SMT (Satisfiability Modulo Theories, co-affiliated with CAV). SAT featured three competitions: the MAX-SAT Evaluation 2010, the Pseudo-Boolean Competition 2010, and the SAT-Race 2010.

Many hard combinatorial problems such as problems arising in verification and planning can be naturally expressed within the framework of propositional satisfiability. Due to its wide applicability and enormous progress in the performance of solving methods, satisfiability has become one of today's most important core technologies. The SAT 2010 call for papers invited the submission of original practical and theoretical research on satisfiability. Topics included but were not limited to proof systems and proof complexity, search algorithms and heuristics, analysis of algorithms, combinatorial theory of satisfiability, random instances vs structured instances, problem encodings, industrial applications, applications to combinatorics, solvers, simplifiers and tools, case studies and empirical results, exact and parameterized algorithms. Satisfiability is considered in a rather broad sense: besides propositional satisfiability, it includes the domain of Quantified Boolean Formulae (QBF), Constraint Programming Techniques (CP) for word-level problems and their propositional encoding and particularly Satisfiability Modulo Theories (SMT).

The conference received 75 submissions, including 56 regular papers with a page limit of 14 pages and 21 short papers with a page limit of 6 pages. Each submission was reviewed by at least four members of the Program Committee. The committee decided to accept 21 regular papers and 14 short papers. Six out of the 14 submitted short papers were accepted; eight papers accepted as short papers had been submitted as regular papers. Three of the short papers were given a slightly larger page limit for the final version.

The program included 30-minute presentations of the accepted regular papers and 20-minute presentations of the accepted short papers. The program also included invited talks by Yehuda Naveh and Ramamohan Paturi (extended abstracts can be found in this volume) and presentations of the results of the three affiliated competitions. In addition, this year's program included an invited tutorial on SMT by Daniel Kroening and a joint session with the SMT workshop.

First and foremost we would like to thank the members of the Program Committee and the additional external reviewers for their careful and thorough work, without which it would not have been possible for us to put together such an outstanding conference program. We also wish to thank all the authors who submitted their work for our consideration.

We wish to thank the Workshop Chair Carsten Sinz for his excellent work, and all the organizers of the SAT affiliated workshops and competitions. Special thanks go to the organizers of FLoC, in particular to Moshe Vardi, for their great help and for coordinating the various conferences. We would like to thank Andrei Voronkov for his excellent EasyChair system that made many tasks easy, and Oliver Kullman, the Chair of SAT 2009, for his advice on running the conference. We also would like to acknowledge the support of our sponsors: EPSRC, NSF, Microsoft Research, Association for Symbolic Logic, CADE Inc., Google, Hewlett-Packard and Intel; Intel also sponsored SAT 2010 separately from their support of FLoC 2010.

May 2010

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Stefan Szeider

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