

PAAR-2018

**Sixth Workshop on
Practical Aspects of Automated Reasoning**

July 19, 2018

Affiliated with the Federated Logic Conference 2018

Oxford, UK

Preface

This volume contains the papers presented at the Workshop on Practical Aspects of Automated Reasoning (PAAR-2018). The workshop was held on July 19, 2018, in Oxford, UK, in association with the Federated Logic Conference 2018. This is the sixth, tenth year anniversary, edition of the workshop. The workshop series started in 2008 with the first workshop in Sydney, Australia, followed by Edinburgh, UK (2010), Manchester, UK (2012), Vienna, Austria (2014) and Coimbra, Portugal (2016).

PAAR provided a forum for developers of automated reasoning tools to discuss and compare different implementation techniques, and for users to discuss and communicate their applications and requirements. The workshop brought together different groups to concentrate on practical aspects of the implementation and application of automated reasoning tools. It allowed researchers to present their work in progress, and to discuss new implementation techniques and applications.

Papers were solicited on topics that include all practical aspects of automated reasoning, including but not limited to

- automated reasoning in propositional, first-order, higher-order, and non-classical logics;
- implementation of provers (SAT, SMT, resolution, tableau, instantiation-based, rewriting, logical frameworks, etc.);
- automated reasoning tools for all kinds of practical problems and applications;
- pragmatics of automated reasoning with proof assistants;
- practical experiences, usability aspects, feasibility studies;
- evaluation of implementation techniques and automated reasoning tools;
- performance aspects, benchmarking approaches;
- non-standard approaches to automated reasoning, non-standard forms of automated reasoning, new applications;
- implementation techniques, optimisation techniques, strategies and heuristics, fairness;
- tools or methods that support prover development;
- system descriptions and demos.

The workshop received seven submissions. Each submission was reviewed by at least three members of the program committee. The committee decided to accept all seven papers for presentation at the workshop and for inclusion into the proceedings. The program also includes an invited talk. The papers cover a wide area of topics ranging from the use of machine learning to guide proof search to higher-order reasoning and specification languages to proof methods and verified tools.

The workshop organizers would like to thank the authors and participants of the workshop for helping to make this a successful event. Our particular thanks go to the program committee and the external reviewers.

We are also grateful to the FLoC 2018 organisers for their support and for hosting the workshop, and we are indebted to the EasyChair team for the availability of the EasyChair Conference System.

July 2018
Liverpool, Prague, Uppsala

Boris Konev
Josef Urban
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