Lecture Notes in Computer Science **11002**

Commenced Publication in 1973
Founding and Former Series Editors:
Gerhard Goos, Juris Hartmanis, and Jan van Leeuwen

Advanced Research in Computing and Software Science
Subline of Lecture Notes in Computer Science

More information about this series at http://www.springer.com/series/7408

Andreas Podelski (Ed.)

Static Analysis

25th International Symposium, SAS 2018
Freiburg, Germany, August 29–31, 2018
Proceedings

Springer

Editor
Andreas Podelski
Universität Freiburg
Freiburg
Germany

ISSN 0302-9743 ISSN 1611-3349 (electronic)
Lecture Notes in Computer Science
ISBN 978-3-319-99724-7 ISBN 978-3-319-99725-4 (eBook)
https://doi.org/10.1007/978-3-319-99725-4

Library of Congress Control Number: 2018952240

LNCS Sublibrary: SL2 – Programming and Software Engineering

This Springer imprint is published by the registered company Springer Nature Switzerland AG
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

Preface

Static analysis is recognized as a fundamental tool for program verification, bug detection, compiler optimization, program understanding, and software maintenance. The series of Static Analysis Symposia has served as the primary venue for the presentation of theoretical, practical, and applicational advances in the area. Previous symposia were held in Edinburgh, Saint-Malo, Munich, Seattle, Deauville, Venice, Perpignan, Los Angeles, Valencia, Kongens Lyngby, Seoul, London, Verona, San Diego, Madrid, Paris, Santa Barbara, Pisa, Aachen, Glasgow, Namur, and New York. This volume contains the papers presented at SAS 2018, the 25th International Static Analysis Symposium. The conference was held during August 29–31, 2018, at Freiburg, Germany.

SAS 2018 featured two associated workshops: the 9th Workshop on Static Analysis and Systems Biology (SASB 2018), and the 9th Workshop on Tools for Automatic Program Analysis (TAPAS 2017), which were held on August 27, 2018, the day before the conference.

The conference received 37 submissions. Each submission was reviewed by at least three Program Committee members. The Program Committee decided to accept 18 papers, which appear in this volume.

In addition to the regular paper review, we organized a separate evaluation for artifacts submitted by authors, together with their papers. Previous editions of SAS also allowed authors to submit artifacts, but this was the first edition where artifacts were evaluated on their own, by a specific committee. Out of the 16 submissions that came with an artifact, nine were accepted. Only the artifacts of the accepted papers were considered for the evaluation. Each of the nine artifacts was evaluated by two or three members of the artifact evaluation committee. The evaluation aimed at making sure that each artifact allows one to reproduce most or all of the results of the paper. Finally, seven artifacts were found of sufficient quality to pass the evaluation. Authors of accepted artifacts were allowed to add to their paper an artifact-approved badge. We hope that this experience will encourage effort for greater reproducibility of results in static analysis.

The program includes invited talks by Aws Albarghouthi (University of Wisconsin–Madison, USA), Zachary Kincaid (Princeton University, USA), Ruzica Piskac (Yale University, USA), Sharon Shoham (Tel Aviv University, Israel), and invited tutorials by Roberto Bagnara (University of Parma/BUGSENG, Italy), Ken McMillan (Microsoft Research, USA), Oded Padon (Tel Aviv University, Israel), and Peter O'Hearn (University College London/Facebook, UK). We warmly thank these speakers for accepting the invitations.

Many people and institutions contributed to the success of SAS 2018. We would like to thank the members of the Program Committee, who worked hard at carefully reviewing papers, holding insightful discussions during the online Program Committee meeting, and making final selections of accepted papers. We would also like to thank

the additional referees enlisted by Program Committee members. The work of the Program Committee and the editorial process was greatly facilitated by the EasyChair conference management system. We are grateful to Springer for publishing these proceedings. Finally, we would like to thank our sponsors: Hahn-Schickard, Facebook, Axivion, ENS Paris, University of Padova, and Springer.

July 2018

Andreas Podelski
(Program Committee Chair)
Xavier Rival
(Artifact Evaluation Chair)

Organization

Program Committee

Domagoj Babic	Google
Sam Blackshear	Facebook
Marc Brockschmidt	Microsoft
Bor-Yuh Evan Chang	University of Colorado Boulder, USA
Swarat Chaudhuri	Rice University, USA
Jerome Feret	Inria, France
Ashutosh Gupta	TIFR
Nicolas Halbwachs	CNRS/Verimag, France
Lukas Holik	Brno University of Technology, Czech Republic
Barbara König	Universität Duisburg-Essen, Germany
Boris Köpf	IMDEA Software Institute, Spain
Shuvendu Lahiri	Microsoft
Hakjoo Oh	Korea University, South Korea
Andreas Podelski	University of Freiburg, Germany
Sylvie Putot	LIX, Ecole Polytechnique, France
Francesco Ranzato	University of Padova, Italy
Jakob Rehof	TU Dortmund University, Germany
Xavier Rival	Inria/CNRS/ENS Paris/PSL University, France
Sriram Sankaranarayanan	University of Colorado Boulder, USA
Harald Sondergaard	The University of Melbourne, Australia
Alexander J. Summers	ETH Zurich, Switzerland
Ashish Tiwari	SRI International, USA
Caterina Urban	ETH Zurich, Switzerland
Lenore Zuck	University of Illinois at Chicago, USA
Damien Zufferey	MPI-SWS, Germany
Florian Zuleger	Vienna University of Technology, Austria

Additional Reviewers

Allamanis, Miltos	Choi, Wontae	Gange, Graeme
Andrlon, Mak	Chu, Duc Hiep	Ghorbal, Khalil
Balakrishnan, Gogul	Cox, Arlen	Giacobazzi, Roberto
Chakarov, Aleksandar	D'Osualdo, Emanuele	Goubault, Eric
Chen, Yu-Fang	Dubreil, Jeremy	Hollingum, Nicholas
Cho, Sungkeun	Fuhs, Carsten	Journault, Matthieu

Katelaan, Jens
Lengal, Ondrej
Lopes, Nuno P.
Ouadjaout, Abdelraouf
Roux, Pierre
Simon, Axel
Srinivasan, Venkatesh
Stefanescu, Andrei
Stuckey, Peter J.
Sung, Chungha
Ulbrich, Mattias
Unadkat, Divyesh
Wang, Yuepeng
Zanella, Marco

Contents