

26st European Symposium on Algorithms

ESA 2018, August 20–22, 2018, Helsinki, Finland

Edited by

Yossi Azar

Hannah Bast

Grzegorz Herman



Editors

Yossi Azar

School of Computer Science

Tel Aviv University

azar@tau.ac.il

Hannah Bast

Department of Computer Science

University of Freiburg

bast@cs.uni-freiburg.de

Grzegorz Herman

Theoretical Computer Science

Jagiellonian University in Kraków

gherman@tcs.uj.edu.pl

ACM Classification 2012

Computer systems organization → Single instruction, multiple data;

Computing methodologies → Graphics processors; Robotic planning;

Hardware → Theorem proving and SAT solving;

Information systems → Data dictionaries;

Mathematics of computing → Approximation algorithms; Combinatorial algorithms; Combinatorial optimization; Combinatorics on words; Extremal graph theory; Graph algorithms; Graph theory; Network flows; Paths and connectivity problems; Permutations and combinations; Random graphs; Spectra of graphs;

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ISBN 978-3-95977-081-1

Published online and open access by

Schloss Dagstuhl – Leibniz-Zentrum für Informatik GmbH, Dagstuhl Publishing, Saarbrücken/Wadern, Germany. Online available at <http://www.dagstuhl.de/dagpub/978-3-95977-081-1>.

Publication date

August, 2018

Bibliographic information published by the Deutsche Nationalbibliothek

The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie; detailed bibliographic data are available in the Internet at <http://dnb.d-nb.de>.

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Digital Object Identifier: 10.4230/LIPIcs.ESA.2018.0

ISBN 978-3-95977-081-1

ISSN 1868-8969

<http://www.dagstuhl.de/lipics>

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■ Preface

This volume contains the extended abstracts selected for presentation at ESA 2018, the 26th European Symposium on Algorithms, held in Helsinki, Finland, on 20–22 September 2018, as part of ALGO 2018. The scope of ESA includes original, high-quality, theoretical and applied research on algorithms and data structures. Since 2002, it has had two tracks: the Design and Analysis Track (Track A), intended for papers on the design and mathematical analysis of algorithms, and the Engineering and Applications Track (Track B), for submissions dealing with real-world applications, engineering, and experimental analysis of algorithms. Information on past symposia, including locations and proceedings, is maintained at <http://esa-symposium.org>.

In response to the call for papers for ESA 2018, 307 papers were submitted, 256 for Track A and 51 for Track B (these are the counts after the removal of papers with invalid format and after withdrawals). Paper selection was based on originality, technical quality, exposition quality, and relevance. Each paper received at least three reviews. The program committees selected 73 papers for inclusion in the program, 58 from Track A and 15 from Track B, yielding an acceptance rate of about 24%. In addition to the accepted contributions, the symposium featured two invited lectures: the first by Claire Mathieu (CNRS, Paris), and the second by Tim Roughgarden (Stanford University).

For this year's Track B, an experiment was performed, where the complete set of submissions was reviewed by two independent PCs. Each PC had 12 members, with a similar distribution according to gender, academic seniority, area of expertise, and continent of affiliation. In each PC, each submission was assigned to 3 PC members. Both PCs used the same standard reviewing process, which involved independently written reviews from the PC members, followed by an extensive discussion phase, and a voting phase for the papers that were still undecided in the end. Each PC eventually accepted 11 papers. A paper was accepted for Track B if and only if it was accepted by at least one of the two PCs. For the analysis of the process, the scores had a clearly communicated semantics and particular care was taken that for each submission in each PC the score set and the state of the discussion matched.

A detailed write-up of the course and the results of the experiment was still ongoing at the time of the creation of these proceedings. It will be published in a separate article containing the words “ESA 2018 experiment” in the title. As an appetizer, here is a list of some of the questions investigated and a first informal answer: how large was the overlap of the set of accepted papers by the two PCs (it fluctuated between 50% and 75% throughout the reviewing process and was very sensitive to relatively minor changes in the discussion), how many “clear accepts” were there (none really: the chance that a paper with the high score in one PC also had the high score in the other PC was not larger than random), how many “clear rejects” were there (about one fourth of all submissions had only negative reviews in both PCs, and the overlap of these sets from the two PCs was over 70%), how many papers had overall positive reviews in one PC and overall negative reviews in the other PC (less than 10% of all submissions), how effective were the discussion phase and the final voting phase (it's not clear that either had a non-random effect on the set of papers that were eventually accepted), what are possible implications for future PCs (read the publication when it's there).

The European Association for Theoretical Computer Science (EATCS) sponsored a best paper award and a best student paper award. A submission was eligible for the best



student paper award if all authors were doctoral, master, or bachelor students at the time of submission. The best student paper award for Track A was given to Maximilian Probst for the paper “On the complexity of the (approximate) nearest colored node problem”. The best student paper award for Track B was given to Max Bannach and Sebastian Berndt for the paper “Practical Access to Dynamic Programming on Tree Decompositions”. The best paper award for Track A was given to Jacob Holm, Giuseppe F. Italiano, Adam Karczmarz, Jakub Łącki and Eva Rotenberg for the paper “Decremental SPQR-trees for Planar Graphs”. The best paper award for Track B was given to Daniel R. Schmidt, Bernd Zey and François Margot for the paper “An exact algorithm for the Steiner forest problem”.

We wish to thank all the authors who submitted papers for consideration, the invited speakers, the members of the program committees for their hard work, and all the external reviewers who assisted the program committees in the evaluation process. Special thanks go to the local organizing committee, who helped us with the organization of the conference.

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