29th Annual European Symposium on Algorithms

ESA 2021, September 6–8, 2021, Lisbon, Portugal (Virtual Conference)

Edited by

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Preface

This volume contains the extended abstracts selected for presentation at ESA 2021, the 29th European Symposium on Algorithms. The event was planned by an organizing committee from University of Lisbon, Portugal as part of ALGO 2021. Due to the COVID-19 pandemic, ALGO was organized as an on-line event, rather than as a physical or hybrid event as originally planned, September 6–8, 2021.

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 that also address 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 2021, 320 papers were submitted, 274 for Track A and 46 for Track B (these are the counts after track changes and withdrawals). Paper selection was based on originality, technical quality, exposition quality, and relevance. Each paper received at least three reviews. The program committees selected 80 papers for inclusion in the program, 68 from track A and 12 from track B, yielding an acceptance rate of about 1/4 for both tracks.

The presentations of the accepted papers together with two invited talks resulted in a very exciting program. Frauke Liers presented recent work on the complexity of and algorithms for network optimization tasks with a timing component, and Aaron Roth about a user-friendly framework for deriving online learning alorithms.

The European Association for Theoretical Computer Science (EATCS) sponsored best paper and best student paper awards. The best paper award for track A was given to Zhiyang He, Jason Li and Magnus Wahlström for the paper *Near-linear-time, Optimal Vertex Cut Sparsifiers in Directed Acyclic Graphs*. For track B, the best paper award was given to Simon D. Fink, Matthias Pfretzschner and Ignaz Rutter for the paper *Experimental Comparison of PC-Trees and PQ-Trees*. 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 Wojciech Nadara, Mateusz Radecki, Marcin Smulewicz and Marek Sokołowski for the paper *Determining 4-edge-connected Components in Linear Time*. For track B, the best student paper award was given to Florian Wörz and Jan-Hendrik Lorenz for the paper *Evidence for Long-Tails in SLS Algorithms*.

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 the nearly 500 external reviewers who assisted the program committees in the evaluation process. Special thanks go to the organizing committee, who helped us with the organization of the conference.

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