28th Annual European Symposium on Algorithms

ESA 2020, September 7–9, 2020, Pisa, Italy (Virtual Conference)

Edited by

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Applied computing → Transportation; Theory of computation → Facility location and clustering; Computing methodologies → Agent / discrete models; Computing methodologies → Algebraic algorithms; Computing methodologies → Combinatorial algorithms; Human-centered computing → Graph drawings; Mathematics of computing → Approximation algorithms; Mathematics of computing → Combinatorial algorithms; Mathematics of computing → Graph algorithms; Mathematics of computing → Graph coloring; Mathematics of computing → Graphs and surfaces; Mathematics of computing → Graph theory; Mathematics of computing → Hypergraphs; Mathematics of computing → Information theory; Mathematics of computing → Network flows; Mathematics of computing → Paths and connectivity problems; Mathematics of computing → Probabilistic algorithms; Mathematics of computing → Random graphs; Mathematics of computing → Solvers; Mathematics of computing → Trees; Networks → Network algorithms; Theory of computation → Algorithmic game theory and mechanism design; Theory of computation → Approximation algorithms analysis; Theory of computation → Computational geometry; Theory of computation → Data structures design and analysis; Theory of computation → Design and analysis of algorithms; Theory of computation → Online algorithms; Theory of computation → Distributed algorithms; Theory of computation → Dynamic graph algorithms; Theory of computation → Facility location and clustering; Theory of computation → Fixed parameter tractability; Theory of computation → Graph algorithms analysis; Theory of computation → Network flows; Theory of computation → Online algorithms; Theory of computation → Packing and covering problems; Theory of computation → Parallel algorithms; Theory of computation → Parallel computing models; Theory of computation → Parameterized complexity and exact algorithms; Theory of computation → Pattern matching; Theory of computation → Problems, reductions and completeness; Theory of computation → Randomness, geometry and discrete structures; Theory of computation → Random network models; Theory of computation → Routing and network design problems; Theory of computation → Scheduling algorithms; Theory of computation → Shared memory algorithms; Theory of computation → Shortest paths; Theory of computation → Sorting and searching; Theory of computation → Stochastic approximation

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Preface

This volume contains the extended abstracts selected for presentation at ESA 2020, the 28th European Symposium on Algorithms. Due to the COVID-19 pandemia, the symposium was organized as a virtual meeting during September 7–9 by the University of Pisa, Italy as part of ALGO 2020. Performing the switch from physical to virtual meeting was accompanied by many discussions about how to handle this situation. However, eventually, the scientific quality of the program as well as the process of selecting contributions was surprisingly little affected. In particular, the number of submissions as well as the acceptance rate was similar to previous years. The PC-chairs gave an exceptional five-day deadline extension to mitigate potential difficulties of authors in handling the situation. This proved an effective means of achieving a high turnout of good submissions.

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 2020, 313 papers were submitted, 262 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 83 papers for inclusion in the program, 70 from track A and 13 from track B, yielding an acceptance rate of about 1/4.

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 Hanrui Zhang for the paper *Improved Prophet Inequalities for Combinatorial Welfare Maximization with (Approximately) Subadditive Agents*. The best paper award for track A was given to Moritz Venzin and Friedrich Eisenbrand for the paper *Approximate CVP_p in time* $2^{0.802n}$. The best paper award for track B was given to Georg Osang, Mael Rouxel-Labbé and Monique Teillaud for the paper *Generalizing CGAL Periodic Delaunay Triangulations*. No best student paper award has been given this year for track B.

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 organizing committee, who helped us with the organization of the conference. All of these people did a great job in keeping ESA a hoard of excellence in a difficult situation.

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