

Approximation, Randomization, and Combinatorial Optimization. Algorithms and Techniques

APPROX/RANDOM 2019, September 20–22, 2019,
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■ Contents

Preface	
<i>Dimitris Achlioptas and László A. Végh</i>	0:xi

APPROX

The Query Complexity of Mastermind with ℓ_p Distances	
<i>Manuel Fernández V, David P. Woodruff, and Taisuke Yasuda</i>	1:1–1:11
Tracking the ℓ_2 Norm with Constant Update Time	
<i>Chi-Ning Chou, Zhixian Lei, and Preetum Nakkiran</i>	2:1–2:15
Submodular Optimization with Contention Resolution Extensions	
<i>Benjamin Moseley and Maxim Sviridenko</i>	3:1–3:17
Prepare for the Expected Worst: Algorithms for Reconfigurable Resources Under Uncertainty	
<i>David Ellis Hershkowitz, R. Ravi, and Sahil Singla</i>	4:1–4:19
Streaming Hardness of Unique Games	
<i>Venkatesan Guruswami and Runzhou Tao</i>	5:1–5:12
On Strong Diameter Padded Decompositions	
<i>Arnold Filtser</i>	6:1–6:21
Max-Min Greedy Matching	
<i>Alon Eden, Uriel Feige, and Michal Feldman</i>	7:1–7:23
Hardy-Muckenhoupt Bounds for Laplacian Eigenvalues	
<i>Gary L. Miller, Noel J. Walkington, and Alex L. Wang</i>	8:1–8:19
Improved 3LIN Hardness via Linear Label Cover	
<i>Prahladh Harsha, Subhash Khot, Euiwoong Lee, and Devanathan Thiruvengatachari</i>	9:1–9:16
Dynamic Pricing of Servers on Trees	
<i>Ilan Reuven Cohen, Alon Eden, Amos Fiat, and Łukasz Jeż</i>	10:1–10:22
Approximating the Norms of Graph Spanners	
<i>Eden Chlamtáč, Michael Dinitz, and Thomas Robinson</i>	11:1–11:22
Conditional Hardness of Earth Mover Distance	
<i>Dhruv Rohatgi</i>	12:1–12:17
Single-Elimination Brackets Fail to Approximate Copeland Winner	
<i>Reyna Hulett</i>	13:1–13:20
Routing Symmetric Demands in Directed Minor-Free Graphs with Constant Congestion	
<i>Timothy Carpenter, Ario Salmasi, and Anastasios Sidiropoulos</i>	14:1–14:15
Rainbow Coloring Hardness via Low Sensitivity Polymorphisms	
<i>Venkatesan Guruswami and Sai Sandeep</i>	15:1–15:17

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Syntactic Separation of Subset Satisfiability Problems <i>Eric Allender, Martín Farach-Colton, and Meng-Tsung Tsai</i>	16:1–16:23
Malleable Scheduling Beyond Identical Machines <i>Dimitris Fotakis, Jannik Matuschke, and Orestis Papadigenopoulos</i>	17:1–17:14
On the Cost of Essentially Fair Clusterings <i>Ioana O. Bercea, Martin Groß, Samir Khuller, Aounon Kumar, Clemens Rösner, Daniel R. Schmidt, and Melanie Schmidt</i>	18:1–18:22
The Maximum Exposure Problem <i>Neeraj Kumar, Stavros Sintos, and Subhash Suri</i>	19:1–19:20
Small Space Stream Summary for Matroid Center <i>Sagar Kale</i>	20:1–20:22
Improved Bounds for Open Online Dial-a-Ride on the Line <i>Alexander Birx, Yann Disser, and Kevin Schewior</i>	21:1–21:22
Improved Online Algorithms for Knapsack and GAP in the Random Order Model <i>Susanne Albers, Arindam Khan, and Leon Ladewig</i>	22:1–22:23
Fast and Deterministic Approximations for k -Cut <i>Kent Quanrud</i>	23:1–23:20
Global Cardinality Constraints Make Approximating Some Max-2-CSPs Harder <i>Per Austrin and Aleksa Stanković</i>	24:1–24:17
Robust Appointment Scheduling with Heterogeneous Costs <i>Andreas S. Schulz and Rajan Udwani</i>	25:1–25:17
Collapsing Superstring Conjecture <i>Alexander Golovnev, Alexander S. Kulikov, Alexander Logunov, Ivan Mihajlin, and Maksim Nikolaev</i>	26:1–26:23
Improved Algorithms for Time Decay Streams <i>Vladimir Braverman, Harry Lang, Enayat Ullah, and Samson Zhou</i>	27:1–27:17
Approximation Algorithms for Partially Colorable Graphs <i>Suprovat Ghoshal, Anand Louis, and Rahul Raychaudhury</i>	28:1–28:20
Towards Optimal Moment Estimation in Streaming and Distributed Models <i>Rajesh Jayaram and David P. Woodruff</i>	29:1–29:21
The Complexity of Partial Function Extension for Coverage Functions <i>Umang Bhaskar and Gunjan Kumar</i>	30:1–30:21
Almost Optimal Classical Approximation Algorithms for a Quantum Generalization of Max-Cut <i>Sevag Gharibian and Ojas Parekh</i>	31:1–31:17
Maximizing Covered Area in the Euclidean Plane with Connectivity Constraint <i>Chien-Chung Huang, Mathieu Mari, Claire Mathieu, Joseph S. B. Mitchell, and Nabil H. Mustafa</i>	32:1–32:21
Robust Correlation Clustering <i>Devrit, Ravishankar Krishnaswamy, and Nived Rajaraman</i>	33:1–33:18

RANDOM

Counting Independent Sets and Colorings on Random Regular Bipartite Graphs
Chao Liao, Jiabao Lin, Pinyan Lu, and Zhenyu Mao 34:1–34:12

The Expected Number of Maximal Points of the Convolution of Two 2-D Distributions
Josep Diaz and Mordecai Golin 35:1–35:14

On a Connectivity Threshold for Colorings of Random Graphs and Hypergraphs
Michael Anastos and Alan Frieze 36:1–36:10

Slow Mixing of Glauber Dynamics for the Six-Vertex Model in the Ordered Phases
Matthew Fahrbach and Dana Randall 37:1–37:20

Lifted Multiplicity Codes and the Disjoint Repair Group Property
Ray Li and Mary Wootters 38:1–38:18

Think Globally, Act Locally: On the Optimal Seeding for Nonsubmodular Influence Maximization
Grant Schoenebeck, Biaoshuai Tao, and Fang-Yi Yu 39:1–39:20

Direct Sum Testing: The General Case
Irit Dinur and Konstantin Golubev 40:1–40:11

Fast Algorithms at Low Temperatures via Markov Chains
Zongchen Chen, Andreas Galanis, Leslie Ann Goldberg, Will Perkins, James Stewart, and Eric Vigoda 41:1–41:14

Deterministic Approximation of Random Walks in Small Space
Jack Murtagh, Omer Reingold, Aaron Sidford, and Salil Vadhan 42:1–42:22

Two-Source Condensers with Low Error and Small Entropy Gap via Entropy-Resilient Functions
Avraham Ben-Aroya, Gil Cohen, Dean Doron, and Amnon Ta-Shma 43:1–43:20

Efficient Average-Case Population Recovery in the Presence of Insertions and Deletions
Frank Ban, Xi Chen, Rocco A. Servedio, and Sandip Sinha 44:1–44:18

Improved Pseudorandom Generators from Pseudorandom Multi-Switching Lemmas
Rocco A. Servedio and Li-Yang Tan 45:1–45:23

Unconstraining Graph-Constrained Group Testing
Bruce Spang and Mary Wootters 46:1–46:20

Near-Neighbor Preserving Dimension Reduction for Doubling Subsets of ℓ_1
Ioannis Z. Emiris, Vasilis Margonis, and Ioannis Psarros 47:1–47:13

Improved Strong Spatial Mixing for Colorings on Trees
Charilaos Efthymiou, Andreas Galanis, Thomas P. Hayes, Daniel Štefankovič, and Eric Vigoda 48:1–48:16

(Near) Optimal Adaptivity Gaps for Stochastic Multi-Value Probing
Domagoj Bradac, Sahil Singla, and Goran Zuzic 49:1–49:21

Testing Odd Direct Sums Using High Dimensional Expanders <i>Roy Gotlib and Tali Kaufman</i>	50:1–50:20
A Lower Bound for Sampling Disjoint Sets <i>Mika Göös and Thomas Watson</i>	51:1–51:13
Approximating the Noise Sensitivity of a Monotone Boolean Function <i>Ronitt Rubinfeld and Arsen Vasilyan</i>	52:1–52:17
Connectivity of Random Annulus Graphs and the Geometric Block Model <i>Sainyam Galhotra, Arya Mazumdar, Soumyabrata Pal, and Barna Saha</i>	53:1–53:23
A Local Stochastic Algorithm for Separation in Heterogeneous Self-Organizing Particle Systems <i>Sarah Cannon, Joshua J. Daymude, Cem Gökmen, Dana Randall, and Andréa W. Richa</i>	54:1–54:22
The Large-Error Approximate Degree of AC^0 <i>Mark Bun and Justin Thaler</i>	55:1–55:16
String Matching: Communication, Circuits, and Learning <i>Alexander Golovnev, Mika Göös, Daniel Reichman, and Igor Shinkar</i>	56:1–56:20
Efficient Black-Box Identity Testing for Free Group Algebras <i>V. Arvind, Abhranil Chatterjee, Rajit Datta, and Partha Mukhopadhyay</i>	57:1–57:16
The Maximum Label Propagation Algorithm on Sparse Random Graphs <i>Charlotte Knierim, Johannes Lengler, Pascal Pfister, Ulysse Schaller, and Angelika Steger</i>	58:1–58:15
Samplers and Extractors for Unbounded Functions <i>Rohit Agrawal</i>	59:1–59:21
Successive Minimum Spanning Trees <i>Svante Janson and Gregory B. Sorkin</i>	60:1–60:16
Simple Analysis of Sparse, Sign-Consistent JL <i>Meena Jagadeesan</i>	61:1–61:20
Streaming Coreset Constructions for M-Estimators <i>Vladimir Braverman, Dan Feldman, Harry Lang, and Daniela Rus</i>	62:1–62:15
Pairwise Independent Random Walks Can Be Slightly Unbounded <i>Shyam Narayanan</i>	63:1–63:19
Optimal Convergence Rate of Hamiltonian Monte Carlo for Strongly Logconcave Distributions <i>Zongchen Chen and Santosh S. Vempala</i>	64:1–64:12
Exploring Differential Obliviousness <i>Amos Beimel, Kobbi Nissim, and Mohammad Zaheri</i>	65:1–65:20
Thresholds in Random Motif Graphs <i>Michael Anastos, Peleg Michaeli, and Samantha Petti</i>	66:1–66:19

Random-Cluster Dynamics in \mathbb{Z}^2 : Rapid Mixing with General Boundary Conditions
Antonio Blanca, Reza Gheissari, and Eric Vigoda 67:1–67:19

On List Recovery of High-Rate Tensor Codes
Swastik Kopparty, Nicolas Resch, Noga Ron-Zewi, Shubhangi Saraf, and Shashwat Silas 68:1–68:22

Approximate \mathbb{F}_2 -Sketching of Valuation Functions
Grigory Yaroslavtsev and Samson Zhou 69:1–69:21

Streaming Verification of Graph Computations via Graph Structure
Amit Chakrabarti and Prantar Ghosh 70:1–70:20

Approximate Degree, Secret Sharing, and Concentration Phenomena
Andrej Bogdanov, Nikhil S. Mande, Justin Thaler, and Christopher Williamson .. 71:1–71:21

Improved Extractors for Recognizable and Algebraic Sources
Fu Li and David Zuckerman 72:1–72:22

■ Preface

This volume contains the papers presented at the 22nd International Conference on Approximation Algorithms for Combinatorial Optimization Problems (APPROX'2019) and the 23rd International Conference on Randomization and Computation (RANDOM'2019), which took place concurrently at the at Massachusetts Institute of Technology, USA during September 20–22, 2019.

APPROX focuses on algorithmic and complexity issues surrounding the development of efficient approximate solutions to computationally difficult problems, and was the 22nd in the series. RANDOM is concerned with applications of randomness to computational and combinatorial problems, and was the 23rd in the series. Prior to 2003, APPROX took place in Aalborg (1998), Berkeley (1999), Saarbrücken (2000), Berkeley (2001), and Rome (2002), while RANDOM took place in Bologna (1997), Barcelona (1998), Berkeley (1999), Geneva (2000), Berkeley (2001), and Harvard (2002). Since 2003, APPROX and RANDOM have been collocated, taking place in Princeton (2003), Cambridge (2004), Berkeley (2005), Barcelona (2006), Princeton (2007), Boston (2008), Berkeley (2009), Barcelona (2010), Princeton (2011), Boston (2012), Berkeley (2013), Barcelona (2014), Princeton (2015), Paris (2016), Berkeley (2017), and Princeton (2018).

Topics of interest for APPROX and RANDOM are: approximation algorithms, hardness of approximation, small space, sub-linear time and streaming algorithms, online algorithms, approaches that go beyond worst case analysis, distributed and parallel approximation, embeddings and metric space methods, mathematical programming methods, spectral methods, combinatorial optimization, algorithmic game theory, mechanism design and economics, computational geometric problems, approximate learning, design and analysis of randomized algorithms, randomized complexity theory, pseudorandomness and derandomization, random combinatorial structures, random walks/Markov chains, expander graphs and randomness extractors, probabilistic proof systems, random projections and embeddings, error-correcting codes, average-case analysis, smoothed analysis, property testing, and computational learning theory.

The volume contains 33 contributed papers, selected by the APPROX Program Committee out of 66 submissions, and 39 contributed papers, selected by the RANDOM Program Committee also out of 66 submissions. We would like to thank all of the authors who submitted papers, the invited speakers, the members of the Program Committees, and the external reviewers. We are grateful for the guidance of the steering committees: Klaus Jansen, Samir Khuller, and Monaldo Mastrolili for APPROX, and Oded Goldreich, Cris Moore, Anup Rao, Omer Reingold, Dana Ron, Ronitt Rubinfeld, Amit Sahai, Ronen Shaltiel, Alistair Sinclair, and Paul Spirakis for RANDOM.

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