Rudy Zhou

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https://rudyzhou.github.io/

Research Interests

optimization under uncertainty, approximation algorithms, combinatorial optimization, operations research

Academic Experience

Postdoc   *2023 - present*
Tepper School of Business, Carnegie Mellon University
Advisor: Benjamin Moseley

PhD Algorithms, Combinatorics, and Optimization   *2018 - 2023*
Tepper School of Business, Carnegie Mellon University   *GPA 3.83/4.00*
Advisor: Benjamin Moseley
Dissertation: On Combinatorial and Stochastic Optimization
Winner of 2023 Gerald L. Thompson Doctoral Dissertation Award in Management Science
Dissertation Committee: Gérard Cornuéjols, Anupam Gupta, Benjamin Moseley (chair), Viswanath Nagarajan

MS Computer Science   *2016 - 2017*
Washington University in St. Louis   *GPA 3.84/4.00*
Advisor: Brendan Juba

BA Mathematics   *2012 - 2016*
Washington University in St. Louis   *GPA 3.98/4.00*

Industry Experience

Research Intern   *Summer 2022*
Microsoft Research Redmond, Cloud Operations Research (CORE) group
Mentor: Konstantina Mellou

Publications

Author order is alphabetical by last name unless otherwise noted by ($\star$).

Journal Publications

Benjamin Moseley, Kirk Pruhs, Clifford Stein, Rudy Zhou
A Competitive Algorithm for Throughput Maximization on Identical Machines
Mathematical Programming B 2024. Link
(Conference Version) Integer Programming and Combinatorial Optimization (IPCO) 2022. Link

Sungjin Im, Benjamin Moseley, Rudy Zhou
The Matroid Cup Game
Operations Research Letters 2021. Link

Rudy Zhou, Han Liu, Tao Ju, Ram Dixit (⋆)
Quantifying the polymerization dynamics of plant cortical microtubules using kymograph analysis
Methods in Cell Biology, 2020. Link

Conference Publications

Konstantina Mellou, Marco Molinaro, Rudy Zhou
Online Demand Scheduling with Failovers
International Colloquium on Automata, Languages and Programming (ICALP) 2023. Link

Franziska Eberle, Anupam Gupta, Nicole Megow, Benjamin Moseley, Rudy Zhou
Configuration Balancing for Stochastic Requests
Integer Programming and Combinatorial Optimization (IPCO) 2023. Link
Minor Revision at Mathematical Programming B

Anupam Gupta, Benjamin Moseley, Rudy Zhou
Minimizing Completion Times for Stochastic Jobs via Batched Free Times
Symposium on Discrete Algorithms (SODA) 2023. Link

Silvio Lattanzi, Benjamin Moseley, Sergei Vassilvitskii, Yuyan Wang, Rudy Zhou
Robust Online Correlation Clustering
Neural Information Processing Systems (NeurIPS) 2021. Link

Anupam Gupta, Benjamin Moseley, Rudy Zhou
Structural Iterative Rounding for Generalized k-Median Problems
International Colloquium on Automata, Languages and Programming (ICALP) 2021. Link
Minor Revision at Mathematical Programming A

Sungjin Im, Mahshid Montazer Qaem, Benjamin Moseley, Xiaorui Sun, Rudy Zhou
Fast Noise Removal for k-Means Clustering
Artificial Intelligence and Statistics (AISTATS) 2020. Link

Invited Talks

INFORMS Annual Meeting	*2023*
Online Demand Scheduling with Failovers	
Banff International Research Station	*2023*
Online Demand Scheduling with Failovers	
Dagstuhl Scheduling Seminar	*2023*
Minimizing Completion Times for Stochastic Jobs via Batched Free Times	
INFORMS Annual Meeting	*2022*
Combinatorial Optimization under Uncertainty	
Combinatorial Optimization and Logistics Seminar, University of Bremen	*2022*
A Competitive Algorithm for Throughput Maximization on Identical Machines	
Theory Reading Group, Dartmouth College	*2022*
Structural Iterative Rounding for Generalized k-Median Problems	
INFORMS Annual Meeting	*2020*

Structural Iterative Rounding for Generalized k-Median Problems

Teaching

MSBA Machine Learning Fundamentals (Main Instructor and Course Designer)   *Spring 2024 Session 1*
Teaching Evaluations: 4.88/5 Course, 4.91/5 Instruction

MBA Calculus Fundamentals (Main Instructor)   *Spring 2023 Session 2*
Teaching Evaluations: 3.75/5 Course, 4.75/5 Instruction

MBA Calculus Fundamentals (Main Instructor)   *Spring 2022 Session 2*
Teaching Evaluations: 5/5 Course, 5/5 Instruction

MBA Calculus Fundamentals (Main Instructor)   *Spring 2022 Session 1*
Teaching Evaluations: 4.8/5 Course, 4.93/5 Instruction

Teaching Assistant at Carnegie Mellon University: Graph Theory (Fall 2020, Fall 2021)

Teaching Assistant at Washington University in St. Louis: Computational Geometry (Fall 2017), Object-Oriented Software Development Laboratory (Spring 2017)

Service

Program Committee: *Workshop on Models and Algorithms for Planning and Scheduling Problems (MAPSP) 2024*

Journal Reviewer: *Mathematics of Operations Research, Mathematical Programming, Information Processing Letters*

Conference Reviewer: *Symposium on Theory of Computing (STOC), Symposium on Discrete Algorithms (SODA), Integer Programming and Combinatorial Optimization (IPCO), Innovations in Theoretical Computer Science (ITCS), International Colloquium on Automata, Languages and Programming (ICALP), International Conference on Artificial Intelligence and Statistics (AISTATS), International Symposium on Algorithms and Computation (ISAAC), European Symposium on Algorithms (ESA), Approximation Algorithms for Combinatorial Optimization Problems (APPROX), Scandinavian Symposium on Algorithm Theory (SWAT)*

Skills

Python, Java, C++, scikit-learn, Git, LaTeX

References

Benjamin Moseley
Carnegie Bosch Associate Professor
Carnegie Mellon University
moseleyb@andrew.cmu.edu

Anupam Gupta
Professor

New York University
anupamg+refs@cs.cmu.edu

Marco Molinaro
Principal Researcher/ Professor
Microsoft Research Redmond / Pontifical Catholic University of Rio de Janeiro
molinaro.marco@gmail.com

Nicole Megow
Professor
University of Bremen
nicole.megow@uni-bremen.de

Sungjin Im
Associate Professor
University of California Merced
sim3@ucmerced.edu