

Maoyuan ‘Raymond’ Song

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RESEARCH INTERESTS	Online algorithms; Learning-augmented algorithms; Sublinear-time and sublinear-space algorithms; Computational complexity; Learning theory.	
EDUCATION	Ph.D. Student in Computer Science Purdue University	August 2020 - Present West Lafayette, IN
	<ul style="list-style-type: none">• Advisors: Elena Grigorescu, Paul Valiant.	
	M.S. in Computer Science Carnegie Mellon University	May 2019 - May 2020 Pittsburgh, PA
	<ul style="list-style-type: none">• Advisor: Carleton Kingsford.• Thesis: Linear Time Addition of Fibonacci Encodings.	
	B.S. in Computer Science Carnegie Mellon University	Aug 2015 - May 2020 Pittsburgh, PA
	<ul style="list-style-type: none">• Minor: Discrete Mathematics and Logic.• Graduated with University Honors.	
EMPLOYMENT	Senior Project Member, Content Manager Carnegie Mellon University Computer Science Academy	January 2018 - May 2020 Pittsburgh, PA
	<ul style="list-style-type: none">• Participated as a senior member in the development of CMU Computer Science Academy, a university-sponsored non-profit organization aiming to provide accessible and effective experiences with CS for highschool students and educators.• Created and managed contents including student exercises, quality assurance, and support resources for educators.	
PUBLICATIONS	<ol style="list-style-type: none">3. Neighborhood Optimality in Mean Estimation: Beyond Worst-Case, Beyond Sub-Gaussian, Beyond $1 + \alpha$ Moments. Trung Dang, Jasper C.H. Lee, Maoyuan Song, Paul Valiant. <i>In submission.</i>2. Learning-Augmented Algorithms for Online Linear and Semidefinite Programming. Elena Grigorescu, Young-San Lin, Sandeep Silwal, Maoyuan Song, Samson Zhou. <i>Conference on Neural Information Processing Systems (NeurIPS) (2022)</i>. Selected for spotlight presentation.1. Linear Time Addition of Fibonacci Encodings. Maoyuan (Raymond) Song. <i>Master's Thesis (2020)</i>.	

TEACHING	Purdue University, Department of Computer Science	
	Graduate Teaching Assistant	
	• CS588 Randomized Algorithms	Spring 2022
	• CS584 Theory of Computation	Fall 2021
	• CS381 Introduction to the Analysis of Algorithms	Spring 2021
	• CS251 Data Structures and Algorithms	Fall 2020
	Carnegie Mellon University, Department of Computer Science	
	Graduate Teaching Assistant	
	• 15-451 Algorithm Design and Analysis	Spring 2020, Fall 2019
AWARDS	Purdue Research Foundation Ross-Lynn Research Scholars Grant. Fall 2022	
PROFESSIONAL SERVICE	External Conference Reviewer	
	• Innovations in Theoretical Computer Science (ITCS) 2023, 2022.	
	• Conference on Neural Information Processing Systems (NeurIPS) 2022, 2021.	
	• International Symposium on Symbolic and Numeric Algorithms for Scientific Computing (SYNASC) 2022.	
	• Journal of Artificial Intelligence Research (JAIR) 2022.	
	Organizer	
	• Theoretical Computer Science Seminar at Purdue, Fall 2022.	
	• Advanced Algorithm Reading Group at Purdue, Fall 2020.	
TALKS and PRESENTATIONS	• Learning-Augmented Algorithms for Online General Covering LPs. Theory Reading Group at Purdue, November 2022.	
	• Online Facility Location Problem with Recourse. Theory Reading Group at Purdue, March 2021.	
	• Linear Time Addition of Fibonacci Encodings. Master's Thesis Defense, April 2020.	