Yeganeh Alimohammadi

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Education

2018–2024 (expected)	**Ph.D., Management Science and Engineering**, *Stanford University*, GPA: 4.07. Operations Research Advisor: Amin Saberi Dissertation title: Learning and decision making using network data.
2021– 2022	**M.S., Management Science and Engineering**, *Stanford University*, GPA: 4.07. Operations Research
2014–2018	**B.Sc., Computer Engineering**, *Sharif University of Technology*, Iran, GPA 19.4/20. Thesis: "On the Maximum Bicliques in Convex Graphs." Advisor: Hamid Zarrabi-Zadeh Minor: Mathematics

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Preprints and Publications

Dec 2022	**Yeganeh Alimohammadi**, *Christian Borgs and Amin Saberi*, Locality of Random Digraphs on Expanders. To Appear in Annals of Probability
Jul. 2022	*Mohammad Akbarpour*, **Yeganeh Alimohammadi**, *Shengwu Li and Amin Saberi*, The Value of Excess Supply in Spatial Matching Markets. ACM Conference on Economics and Computation (EC'22)
Apr. 2022	**Yeganeh Alimohammadi**, *Persi Diaconis, Mohammad Roghani and Amin Saberi*, Sequential Importance Sampling for Estimating Expectations over the Space of Perfect Matchings. To appear in Annals of Applied Probability.
Jan. 2022	**Yeganeh Alimohammadi**, *Christian Borgs and Amin Saberi*, Algorithms Using Local Graph Features to Predict Epidemics. ACM-SIAM Symposium on Discrete Algorithms (SODA'22) Poster presented at WOLA 2021
(working paper)	**Yeganeh Alimohammadi**, *Kirankumar Shiragur, Ramesh Johari, David Scheinker, Kevin Schulman, and Kristan Staudenmayer*, Relative-Risk and the Assessment of School Safety in the COVID-19 Pandemic: Schools May Offer Students Shelter from the Storm. Health Management, Policy, and Innovation, volume 5, Issue 1, special issue on COVID-19, 2021
(submitted)	**Yeganeh Alimohammadi**, *Aranyak Mehta and Andres Perlroth*, Incentive Compatibility in the Auto-bidding World..
(submitted)	**Yeganeh Alimohammadi**, *Kristen Kessel, Hung V. Tran, and Truong-Son Van*, Analyzing Greedy in Dynamic Matching Markets with Coagulation Fragmentation Processes. under submission
Jun. 2021	**Yeganeh Alimohammadi**, *Nima Anari, Kirankumar Shiragur, and Thuy-Duong Vuon*, Fractionally log-concave and sector-stable polynomials: Counting planar matchings and more. In proceedings of the Fifty-Third Annual ACM Symposium on Theory of Computing (STOC'21)

Internships and Research Visits

Fall 2022	**Simons Institute of Theory of Computing**, *Research Fellow*. Graph Limits and Processes on Networks: From Epidemics to Misinformation

Summer 2022	**Google**, *Research Intern*.
	I interned in the Market Algorithm group in Mountain View. I worked on 3 different research projects during my internship with practical implications for Google products: 1) auto-bidding equilibrium properties, 2) ecosystem health in long-term two-sided markets, 3) online matching in two-sided auctions.
Summer 2021	**DE Shaw & Co**, *Quantitative Analyst Intern*.
	I applied statistical learning methods to predict the behavior of brokers in Futures market.

Other Research Experiences

Fall 2020	**Los Angles Unified School District (LAUSD)**, *Advising their reopening plans*.
	LAUSD, a district with nearly 700,000 students and 70,000 staff, had to close their schools due to COVID-19 pandemic. We developed a novel approach to policy comparison via discrete network models of epidemic spread, that explicitly capture the dynamics among small cohorts of students and teachers in schools. With empirical calibration of this underlying network model, we advised the district on the testing strategy to ensure and support a successful reopening of schools.

Fellowships & Awards

2020-2023	***Dantzig-Lieberman Operations Research Fellowship***, *6 quarters* , Stanford.
2014	***Bronze Medal*** in the 55th International Mathematical Olympiad, South Africa.
2013	***Gold Medal*** in the 32th Iranian National Mathematical Olympiad.

Teaching Experiences

Stanford University

Winter, 2022	**CS 265:Randomized Algorithms and Probability Methods**, Stanford.
	Responsibilities:

- Running in-class problem sessions
- Designing and grading homework
- Running 2 hours of office hours per week

Fall, 2020	**MS&E 235/337: Network Structure and Epidemics**, Stanford.
	Responsibilities:

- Reading and commenting on final paper
- Designing and grading homework
- Running 1.5 hours of office hours per week

Sum., 2019	**CS 161: Design and Analysis of Algorithms**, Stanford.
	Responsibilities:

- Proof-reading and grading homework and final exam of 100 undergraduates
- Running 2 hours of office hours per week

Sharif University of Technology

Fall 2017	**Design and Analysis of Algorithms**, *Head TA*, Sharif University, Tehran, Iran.
Winter 2017	**Discrete Mathematics**, *Head TA*, Sharif University, Tehran, Iran.
Spring 2017	**Engineering Probability and Statistics** , Sharif University, Tehran, Iran.

Teaching to High School Students

2014-2015	**Farzanegan High School**, Tehran, Iran.
	Throughout my undergrad, I taught various topics to high school student, preparing for the Mathematical Olympiads. Topics I have taught include Combinatorics, Algebra, Number Theory, and problem solving skills

Talks

Upcoming

Oct. 2023	INFORMS Annual Meeting, *(Invited Speaker)*.

Jul. 2023	INFORMS Healthcare Meeting, *(Invited Speaker)*.
June. 2023	INFORMS Biannual Applied Probability Meeting.
May. 2023	The Fields Institute for Research in Mathematical Sciences, *(Plenary Speaker)*, Workshop on Algorithms and Models for the Web Graph.
Mar. 2023	London School of Economics, *(Invited Speaker)*, Statistics Seminar.

Past

Incentive Compatibility in the Auto bidding World.

Feb 2023	Stanford Theory Seminar.

A few Local Samples to Predict Epidemics on Networks.

Nov 2022	Duke Fuqua, Workshop on Operations Research and Data Structures, *(Invited Speaker)*.
Oct 2022	Cornell University, ORIE Young Researcher Workshop, *(Invited Speaker)*.
Oct 2022	INFORMS Annual Meeting.
Oct 2022	Cornell University, Computer Science Theory Seminar, *(Invited Speaker)*.
Sept 2022	Simons Institute at UC Berkeley, *(Invited Speaker)*.
Mar 2022	The 21st annual Trans-Atlantic Doctoral Conference, London School of Business, *(Invited Speaker)*.
Feb 2022	Rutgers University, Computer Science Theory Seminar, *(Invited Speaker)*.
Jan 2022	ACM-SIAM Symposium on Discrete Algorithms, *(Conference Talk)*.
Oct 2021	Stanford Women in Theory Forum inaugural meeting, *(Invited Speaker)*.
Nov 2020	Stanford Theory Lunch.

The Value of Excess Supply in Spatial Matching Markets.

Jul 2022	ACM Conference on Economics and Computation, *(Conference Talk)*.
OCt 2021	INFORMS Annual Meeting, *(Invited Speaker)*.
Mar 2021	London School of Economics, Highlights of Algorithms.
Mar 2021	London Business School, Operations Research Seminar, *(Invited Speaker)*.
Feb 2021	UC Berkeley, Simons Institute for the Theory of Computing, *(Invited Speaker)*.

Network models for school reopening during COVID-19.

Jul 2021	INFORMS Healthcare Meeting, *(Invited Speaker)*.

Service

Reviewer	**Journal**, *Management Science (2020), Computational and Applied Mathematics (2022), Annals of Applied Probability (2022), Review of Economics Studies (2022)*.
	Conferences, *European Symposium on Algorithms (2019, 2022), ACM Symposium on Theory of Computing (2020), Symposium on Discrete Algorithms (2021,2022,2023), ITCS (2022), World Wide Web (2022)*.
Session Chair	**Symposium on Discrete Algorithms (SODA)**, *2022*.
	INFORMS annual Meeting, *2023*.
Program Comitteee	**Conference on Economics and Computation (EC)**, *2023*.

Outreach

2021- present	**Women in Operations Research – INFORMS Society**, *Mentor*.
	Mentoring master's students coming from underrepresented minorities
2021	**Stanford MS&E Undergraduate Diversity in Research**, *Mentor*.
	Mentoring undergrads from underrepresented minorities conducting research in academia

2019- 2021	**Stanford Women in Math Mentoring**, *Board member and mentor.* Mentoring program that aims to reduce the gender gap in computational sciences
2020- 2021	**Persian Student Association**, *Board member.* A volunteer student organization to support Iranian students and promote an understanding of Persian culture at Stanford
2021-2022	**Stanford Math Directed Reading Program**, *Mentor.* I mentor undergraduate students interested in mathematics to learn about applications of linear algebra in algorithm design. I have weekly meetings with my mentee for guidance and discussions.

Computer Skills

Programming Languages	Python, C, C++, JAVA, MATLAB
Web & Database	HTML, DJango, MySQL, PostgreSQL
Type Setting	LaTeX