Yeganeh Alimohammadi

Management Science and Engineering
Stanford University
✉ yeganeh@stanford.edu
🖥 My Webpage
○ Github   in Linkedin

Education

Stanford University.

2018–2024 *Ph.D., Management Science and Engineering (Operations Research)*
Advisor: Amin Saberi
Dissertation title: Learning and decision making using network data.

2021–2022 *M.S., Management Science and Engineering (Operations Research)*

Sharif University of Technology, Iran.

2014–2018 *B.S., Computer Engineering*
Minor in Mathematics and Applications

Research Interests

Applied Probability and Modeling, Operations Research, Data Analytics, Algorithms, Network Science.

Publications

Journal Publications

Yeganeh Alimohammadi, *Persi Diaconis, Mohammad Roghani and Amin Saberi*, Sequential Importance Sampling for Estimating Expectations over the Space of Perfect Matchings.
Annals of Applied Probability, 2023.

Yeganeh Alimohammadi, *Christian Borgs and Amin Saberi*, Locality of Random Digraphs on Expanders.
Annals of Probability, 2023.

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, special issue on COVID-19, 2021.

Peer-reviewed Conference Papers

Yeganeh Alimohammadi, *Aranyak Mehta and Andres Perlroth*, Incentive Compatibility in the Auto-bidding World.
ACM Conference on Economics and Computation (EC'23).

Yeganeh Alimohammadi, *Christian Borgs and Amin Saberi*, Algorithms Using Local Graph Features to Predict Epidemics.
ACM-SIAM Symposium on Discrete Algorithms (SODA'22).

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).

Yeganeh Alimohammadi, *Nima Anari, Kirankumar Shiragur, and Thuy-Duong Vuon*, Fractionally log-concave and sector-stable polynomials: Counting planar matchings and more.
ACM Symposium on Theory of Computing (STOC'21).

Working Papers Under Review

Yeganeh Alimohammadi, *Christian Borgs, Remco van der Hofstad, and Amin Saberi*, Epidemic Forecasting Through Local Network Sampling.
submitted to Operations Research.

Yeganeh Alimohammadi, *Aranyak Mehta and Andres Perlroth*, Incentive Compatibility in the Auto-bidding World.
under review at Management Science (extended abstract appeared in EC'23).

Yeganeh Alimohammadi, *Ramesh Johari, David Scheinker, Kevin Schulman, and Kristan Staudenmayer*, The impact of COVID-19 mitigation and testing on reopening a U.S. school district.
under review at Journal of the American Medical Association Pediatrics (JAMA Pediatrics).

Yeganeh Alimohammadi, *Luana Ruiz, and Amin Saberi*, A Local Graph Limits Perspective on Sampling-Based Graph Neural Networks.
under review at Conference on Neural Information Processing Systems (NeurIPS'23).

Research Appointments

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*.
Host: Aranyak Mehta. Project: Incentive Compatibility in the Auto-bidding World.

Honors & Awards

2022 | ***Simons Institute For Theory of Computing***, *Research Fellowship*, UC Berkeley.

2022-2023 | ***Dantzig-Lieberman Operations Research Funds***, Stanford University.

2021-2022 | ***Myron J. Stolaroff Fellowship***, Stanford University.

2020-2021 | ***Dantzig-Lieberman Operations Research Funds***, Stanford University.

2019-2020 | ***Dantzig-Lieberman Operations Research Funds***, Stanford University.

2017 | Scholarship for undergraduate research at ***Princeton University***.

2016 | Scholarship for undergraduate research at ***University of Delaware***.

2014 | ***Bronze Medal*** in the 55th International Mathematical Olympiad.

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 the 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.

High School Teaching

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, and problem-solving skills.

Talks

Epidemic Prediction and Control: Insights from Network Analysis.
Oct. 2023 INFORMS Annual Meeting, *(Invited Speaker)*.
Jul. 2023 ACM Economics and Computation, *(Rising Star)*.
Jun. 2023 INFORMS Biannual Applied Probability Society Meeting.
May 2023 University of Chicago Booth, Brown Bag Seminar, *(Invited Speaker)*.
May 2023 The Fields Institute for Research in Mathematical Sciences, Workshop on Algorithms and Models for the Web Graph, *(Plenary Speaker)*.

Incentive Compatibility in the Auto bidding World.
Jul. 2023 ACM Economics and Computation, *(Conference Talk)*.
Feb. 2023 Stanford Theory Seminar.
Sep. 2022 Google Research, Market Algorithm Seminar.

A Few Local Samples to Predict Epidemics on Networks.
Mar. 2023 London School of Economics, Statistics Seminar, *(Invited Speaker)*.
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)*.
Sep. 2022 Simons Institute for Theory of Computing, UC Berkeley, *(Invited Speaker)*.
Mar. 2022 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)*.

Locality of Random Digraphs on Expanders.
Oct. 2022 Simons Institute for Theory of Computing, UC Berkeley.
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	Simons Institute for Theory of Computing, UC Berkeley, *(Invited Speaker)*.
	Network models for school reopening during COVID-19.
Jul. 2023	INFORMS Healthcare Meeting, *(Invited Speaker)*.
Apr. 2023	Brin Mathematics Research Center, University of Maryland, *(Invited Speaker)*.
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 (2021,2022,2023,2024), Innovations in Theoretical Computer Science (2022), World Wide Web (2022)*.

Session Chair   **Symposium on Discrete Algorithms (SODA)**, *2022*.

INFORMS annual Meeting, *2023*.
Applies Probability Society & Revenue Management and Pricing Clusters.

Program Committee   **Conference on Economics and Computation (EC)**, *2023*.

Mentoring and Outreach

2021–present   **Mentor, Women in Operations Research**, *INFORMS Society*.
Supported master's students from underrepresented minorities in their academic and professional paths.

2021   **Mentor, MS&E Undergraduate Diversity in Research**, *Stanford University*.
Guided an undergraduate from diverse backgrounds in research on epidemics and health policy, promoting inclusivity in academia.

2019–2021   **Board Member and Mentor, Women in Math Mentoring**, *Stanford University*.
Organized over 10 events fostering a supportive community for women in computational sciences. Mentored students for over 3 years, with several now pursuing PhD programs. Actively participated in initiatives aimed at bridging the gender gap in computational sciences.

2021–2022   **Mentor, Math Directed Reading Program**, *Stanford University*.
Guided undergraduates in exploring linear algebra applications in algorithm design.

2022   **Mentor, CS Mentoring Program**, *Stanford University*.
Assisted undergraduate students from diverse backgrounds in navigating computer science.

2020–2021   **Board Member, Persian Student Association**, *Stanford University*.
Facilitated cultural integration through events while supporting Iranian students.

2014-2016   **Co-founder, Math Magazine for Female High School Students**, Iran.
Launched a monthly publication aiming to inspire and support female high school students in pursuing STEM. Featured accessible math puzzles, research questions, and interviews with accomplished women in science to make STEM fields more relatable and approachable.

References

Amin Saberi
Professor
Management Science & Engineering
Stanford University
✉ saberi@stanford.edu

Persi Diaconis
Professor
Department of Statistics
Stanford University
✉ diaconis@math.stanford.edu

Ramesh Johari
Professor
Management Science & Engineering
Stanford University
✉ rjohari@stanford.edu