Vahideh Manshadi

Contact Information

Yale School of Management
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Employment

Yale School of Management, New Haven, CT
Associate Professor of Operations (without Tenure) 2019 -
Assistant Professor of Operations 2014 - 2019
Other Yale affiliations:
Yale Institute for Network Science
Department of Statistics and Data Science
Public Health Modeling Concentration, School of Public Health

Massachusetts Institute of Technology, Cambridge, MA 2011 - 2014
Postdoctoral Associate in Operations Research Center (ORC)
Advisor: Patrick Jaillet

Education

Stanford University, Stanford, CA 2011
Ph.D. in Electrical Engineering
Advisor: Amin Saberi

Stanford University, Stanford, CA 2011
M.S. in Statistics

Stanford University, Stanford, CA 2005
M.S. in Electrical Engineering

Sharif Institute of Technology, Tehran, Iran 2003
B.S. in Electrical Engineering

Visiting Positions

UC Berkeley Simons Institute, Berkeley, CA 2019
Program on "Online and Matching-Based Market Design"

Research Interests

Operation of Online & Matching Platforms, Social Platforms & Networks, Revenue Management & Market Analytics, Data-Driven Optimization, Real-Time Decision Making, Resource Allocation

Published/ Forthcoming Articles

1. "Online Resource Allocation under Partially Predictable Demand." *Operations Research*, forthcoming, 2020. (with D. Hwang and P. Jaillet)
2. "Diffusion in Random Networks: Impact of Degree Distribution." *Operations Research*, forthcoming, 2019. (with S. Misra and S. Rodilitz)
3. "On Matching and Thickness in Heterogeneous Dynamic Markets." *Operations Research*, Vol. 67, No. 4, 2019. (with I. Ashlagi, M. Burq, and P. Jaillet)
4. "The Stochastic Container Relocation Problem." *Transportation Science*, , Vol. 52, No. 5, 2018. (with V. Galle, S. Borjian, C. Barnhart, and P. Jaillet)
5. "The Effect of Match-Run Frequencies on the Number of Transplants and Waiting Times in Kidney Exchange." *American Journal of Transplantation*, Vol. 18, No. 5, 2018. (with I. Ashlagi, A. Bingaman, M. Burq, D. Gamarnik, C. Murphey, A. E. Roth, M. L. Melcher, and M. A. Rees)
6. "An Average-Case Asymptotic Analysis of the Container Relocation Problem." *Operations Research Letters*, Vol. 44, No. 6, 2016. (with S. Borjian, V. Galle, C. Barnhart, and P. Jaillet)

7. "Online Stochastic Matching: Online Actions Based on Offline Statistics." *Mathematics of Operations Research*, Vol. 37, No. 4, 2012. (with S. Oveis Gharan, and A. Saberi)

8. "High-fidelity and Time-Driven Simulation of Large Wireless Networks with Parallel Processing." *IEEE Communications Magazine*, Vol. 47, No. 3, 2009. (with H. Lee and D. C. Cox)

Working Papers

9. "Information Inundation on Platforms and Implications." Minor Revision at *Operations Research*, 2020. (with G. Allon and K. Drakopoulos)

10. "Product Ranking on Online Platforms." Major Revision at *Management Science*, 2019. (with M. Derakhshan, N. Golrezaei, and V. Mirrokni)

11. "Impact of Network Structure on New Service Pricing." Submitted, 2019. (with S. Alizamir, N. Chen, and S. Kim)

12. "Online Policies for Efficient Volunteer Crowdsourcing." Working paper, 2020. (with S. Rodilitz)

13. "Information Design for Congested Social Services: Optimal Need-Based Persuasion." Working paper, 2020 (with J. Anunrojwong and K. Iyer)

14. "Optimal Growth in Repeated Matching Platforms: Options versus Adoption." Working paper, 2020. (with I. Lo, A. Shameli, and S. Rodilitz)

Peer-Reviewed Conference Papers

(Papers highlighted in bold do not have a journal version.)

15. "Online Policies for Efficient Volunteer Crowdsourcing." *Proceedings of the 21st ACM Conference on Economics and Computation (EC)*, 2020. (with S. Rodilitz)

16. "Information Design for Congested Social Services: Optimal Need-Based Persuasion." *Proceedings of the 21st ACM Conference on Economics and Computation (EC)*, 2020. (with J. Anunrojwong and K. Iyer)

17. "Product Ranking on Online Platforms." *Proceedings of the 21st ACM Conference on Economics and Computation (EC)*, 2020. (with M. Derakhshan, N. Golrezaei, and V. Mirrokni)

18. "Information Inundation on Platforms and Implications." *Proceedings of the 20th ACM Conference on Economics and Computation (EC)*, 2019. (with G. Allon and K. Drakopoulos)

19. "Diffusion in Random Networks: Impact of Degree Distribution." *Proceedings of the 13th Workshop on the Economics of Networks, Systems and Computation (NetEcon)*, 2018. (with S. Misra and S. Rodilitz)

20. "On Matching and Thickness in Heterogeneous Dynamic Markets." *Proceedings of the 17th ACM Conference on Economics and Computation (EC)*, 2016. (with I. Ashlagi, M. Burq, and P. Jaillet)

21. "**Kidney Exchange in Dynamic Sparse Heterogeneous Pools.**" *Proceedings of the 14th ACM Conference on Economics and Computation (EC)*, 2013. (with I. Ashlagi and P. Jaillet)

22. "**Dynamics of Prisoner's Dilemma and the Evolution of Cooperation on Networks.**" *Proceedings of the 3rd Innovations in Theoretical Computer Science Conference (ITCS)*, 2012. (with A. Saberi)

23. "**Distributed Node Placement Algorithms for Constructing Well-Connected Sensor Networks.**" *Proceedings of the 31st IEEE International Conference on Computer Communications (INFOCOM)*, 2012. (with A. J. Friend and A. Saberi)

24. "Prisoner's Dilemma on Graphs with Large Girth." *Proceedings of the 6th Workshop on the Economics of Networks, Systems and Computation (NetEcon)*, 2011. (with A. Saberi)

25. "Online Stochastic Matching: Online Actions Based on Offline Statistics." *Proceedings of the 22nd Annual ACM-SIAM Symposium on Discrete Algorithms (SODA)*, 2011. (with S. Oveis Gharan and A. Saberi)

26. "**Supermodular Network Games.**" *The 47th Annual Allerton Conference on Communication, Control, and Computing (Allerton)*, 2009. (with R. Johari)

27. "**Efficient, Fully Local Algorithms for CIOQ Switches.**" *Proceedings of the 26th IEEE International Conference on Computer Communications (INFOCOM)*, 2007. (with A. Firoozshahian, A. Goel, and B. Prabhakar)

28. "High Fidelity Simulation of Mobile Cellular Systems with Integrated Resource Allocation and Adaptive Antennas." *IEEE Wireless Communications and Networking Conference (WCNC)*, 2007. (with H. Lee, D. C. Cox, and N. K. Cheung)

Teaching Experience

Yale School of Management

- MGT 819: Big Data (MBA Elective) - Co-Developed with D. Lee
- MGT 868: Revenue Management (MBA Elective) - Developed
- MGMT 720: Models of Operations Research and Management (Ph.D. course)- Developed

Media Recognition

Miracle Matches. *MIT News*, October 15, 2013.
Kidney Exchange Registries Should Collaborate to Save More Lives. *Yale Insights*, May 14, 2019.

Professional Experience

Akamai Technologies, Cambridge, MA — Summer 2007
Intern in the load balancing group

Ikanos Communications, Fremont, CA — Summer 2005
Intern

Professional Activities

Student Advising:

- Scott Rodilitz (Yale, Ph.D. candidate in Operations) - Ph.D. Advisor
- Cheng Hua (Yale, Ph.D. candidate in Operations) - Ph.D. Thesis Committee
- Tong Wang (Yale, Ph.D. candidate in Chemical & Environmental Engineering) - Ph.D. Thesis Committee
- Virgile Galle (MIT, Ph.D. in Operations Research) - Ph.D. Thesis Committee and Coauthor
- Maximilien Burq (MIT, Ph.D. in Operations Research) - Coauthor
- Dawsen Hwang (MIT, Ph.D. Electrical Engineering and Computer Science) - Ph.D. Thesis Committee and Coauthor
- Setareh Borjian (MIT, M.S. in Operations Research) - Coauthor

Guest Associate Editor: Operations Research - Area: Revenue Management and Market Analytics (2019-present).

Senior Program Committee: ACM Conference on Economics and Computation (2019, 2020).

Program Committee: ACM Conference on Economics and Computation (2018), The Web Conference (2020).

Referee for Awards: Elwood S. Buffa Doctoral Dissertation Award (2019).

Reviewer for Journal: Management Science, Operations Research, Mathematics of Operations Research, INFORMS Journal on Optimization, Algorithmica, Stochastic Systems, Transportation Science, Journal of Optimization Theory and Applications, IEEE Transaction of Networking, IEEE Transactions on Network Science and Engineering, IEEE Transactions on Communications, Information Processing Letters (IPL).

Reviewer for Conference: MSOM Service Management SIG Conference, MSOM Supply Chain Management SIG Conference, IEEE Symposium on Foundations of Computer Science (FOCS), ACM Symposium on Theory of Computing (STOC), ACM Conference on Economics and Computation (EC), ACM Symposium on Parallelism in Algorithms and Architectures (SPAA), ACM International Conference on Measurement and Modeling of Computer Systems (SIGMETRICS), IEEE Conference on Computer Communications (INFOCOM).

Invited Session Chair: INFORMS International Meeting (2016), POMS Annual Conference (2019), INFORMS Annual Meeting—MSOM Service SIG Cluster (2019), INFORMS Annual Meeting—Revenue Management and Pricing Cluster (2019).

Organizer: The 4th Workshop on Networks, Matching, and Platforms, January 2020.

Student Organizer: The 6th Workshop on Internet and Network Economics (WINE), December 2010.

Invited Talks

NYC Operations Day, Cornell Tech (scheduled) — 2020
EconCS Seminar, Harvard University (scheduled)
OM Seminar, MIT Sloan School of Management (scheduled)
OM Workshop, Tuck School of Business (scheduled)
Institute for Mathematical Behavioral Sciences, UC Irvine (scheduled)
Marketplace Innovation Workshop, Columbia University (scheduled)
OTIM Symposium, Cornell Johnson (scheduled)

Simons Institute for the Theory of Computing, UC Berkeley — 2019
Center for Game Theory, Stony Brook University
Department of Management Science & Engineering, Stanford University
Banff International Research Station

Yale School of Management — 2018
Ross School of Business, University of Michigan
Google Research New York
Columbia Business School

School of Public Health, Yale University — 2017
Department of Civil & Environmental Engineering, MIT

Yale Institute for Network Science — 2014
School of Engineering & Applied Sciences, Harvard University
Department of Industrial & Systems Engineering, University of Minnesota
Yale School of Management
Industrial & Operations Engineering, University of Michigan

Rotman School of Management, University of Toronto

School of Operations Research & Information Engineering, Cornell University 2013
Department of Mechanical & Industrial Engineering, UMass Amherst
Operations Research Center, MIT

Laboratory for Information & Decision Systems, MIT 2011
Department of Computer & Information Science, University of Pennsylvania

Computer Science Department, Stanford University 2010

Conference Presentations

Crowdsourcing Food Recovery: A Platform Design Study
Yale Operations Seminar Series, New Haven, CT, March 2020
Workshop on Networks, Matching, and Platforms, Orlando, FL, January 2020
INFORMS Annual Meeting, Seattle, WA, October 2019

Information Inundation on Platforms and Implications
Workshop on Marketplace Innovation, Stanford University, CA, June 2019
ACM Conference on Economics and Computation (EC), Phoenix, AZ, June 2019

Product Ranking on Online Platforms
MSOM Service SIG, Naveen Jindal School of Management, TX, July 2018
INFORMS Revenue Management & Pricing (RMP) Conference, Toronto, Canada, June 2018
Workshop on Marketplace Innovation, Stanford University, CA, June 2019

Impact of Network Structure on New Service Pricing
INFORMS Annual Meeting, Phoenix, AZ, November 2018
Workshop on Marketplace Innovation, Stanford University, CA, June 2017

On Matching and Thickness in Heterogeneous Dynamic Markets
INFORMS Annual Meeting, Phoenix, AZ, November 2018

Online Resource Allocation under Partially Predictable Demand
INFORMS Annual Meeting, Houston, TX, October 2017
MSOM Conference, Kenan-Flagler Business School, NC, June 2017
INFORMS Revenue Management & Pricing (RMP) Conference, NYU Stern School of Business, NY, June 2016

A Modified Bass Model for Product Growth in Networks
ISMP Conference, Pittsburgh, PA, July 2015
MSOM Conference, Rotman School of Management, Toronto, Canada, June 2015
IFORS Conference, Barcelona, Spain, July 2014

Kidney Exchange in Dynamic Sparse Heterogeneous Pools
INFORMS Annual Meeting, Minneapolis, MN, October 2013
MSOM Conference, INSEAD, Fontainebleau, France, July 2013
ACM Conference on Economics and Computation (EC), University of Pennsylvania, PA, June 2013

Multi-Hospital Kidney Exchange: Dynamic Matching in a Heterogeneous System
INFORMS Annual Meeting, Phoenix, AZ, October 2012
MSOM Conference, Columbia University, NY, June 2012

Dynamics of Prisoner's Dilemma and the Evolution of Cooperation on Networks

Innovations in Theoretical Computer Science (ITCS) Conference, Cambridge, MA, January 2012

INFORMS Annual Meeting, Charlotte, NC, November 2011

Workshop on the Economics of Networks, Systems, and Computation (NetEcon), San Jose, CA, June 2011

Online Stochastic Matching: Online Actions Based on Offline Statistics

ACM-SIAM Symposium on Discrete Algorithms (SODA), San Francisco, CA, January 2011

INFORMS Annual Meeting, Austin, TX, November 2010

Supermodular Network Games

Annual Allerton Conference on Communication, Control, and Computing, Monticello, IL, September 2009

Fluid Limits of Diffusion Processes on Homogeneous Graphs

INFORMS Applied Probability Society (APS) Conference, Cornell University, NY, July 2009

PROGRAMMING SKILLS

Python, C#, R, and Matlab