Xiaobo Li

CONTACT INFORMATION

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EMPLOYMENT

National University of Singapore, Singapore — Jul. 2018 - Present

Assistant Professor, Department of Industrial Systems Engineering and Management

EDUCATION

University of Minnesota, Minneapolis, MN — Aug. 2013 - Jun. 2018

Ph.D., Department of Industrial and Systems Engineering

- Thesis title: "On Applications of Convex Optimization to Discrete Choice Modeling"
- Advisors: Shuzhong Zhang and Zizhuo Wang

Singapore University of Technology and Design, Singapore — Sep. 2012 - Aug. 2013

Research and Teaching Assistant, Engineering Systems and Design

City University of Hong Kong, Kowloon, Hong Kong — Sep. 2010 - Aug. 2012

M.Phil., Department of Management Sciences

- Thesis title: "Convex Bounds for Dependent Risks with Applications to Robust Optimization"
- Advisor: Karthik Natarajan

University of Science and Technology of China, Hefei, China — Sep. 2006 - Jul. 2010

B.S., Department of Physics

RESEARCH INTERESTS

Data-Driven Decision Making, Stochastic and Robust Optimization, Pricing and Revenue Management, Discrete Choice Models, Online Learning, Sharing Economy

INDUSTRY EXPERIENCE

Lyft, San Francisco, CA — May 2017 - Aug. 2017

Data Science Summer Intern

- Improved prediction accuracy for the estimated time of arrival (ETA) using machine learning
- Investigated effects of various events on the ETA

Target Corporation, Minneapolis, MN — Jun. 2016 - Aug. 2016

Data Science Summer Intern

- Estimated customers' preferences using discrete choice models for assortment optimization
- Adjusted modeling approach to improve estimation accuracy

PUBLICATIONS

"Convex Optimization for Bundle Size Pricing Problem" (with Hailong Sun and Chung Piaw Teo). *Accepted by Management Science*, 2021.

"A Convex Optimization Approach for Computing Correlated Choice Probabilities with Many Alternatives" (with Selin Damla Ahipasaoglu and Karthik Natarajan). *IEEE Transactions on*

Automatic Control, 64(1), 190-205, 2019.

"Online Learning with Non-Convex Losses and Non-Stationary Regret" (with Xiang Gao and Shuzhong Zhang). *The 21st International Conference on Artificial Intelligence and Statistics (AISTATS 2018)*

"On Substitutability and Complementarity in Discrete Choice Models" (with Guiyun Feng and Zizhuo Wang). *Operations Research Letters*, 46(1), 141-146, 2018.

"On the Relation Between Several Discrete Choice Models" (with Guiyun Feng and Zizhuo Wang). *Operations Research*, 65(6), 1516-1525, 2017.

"Robustness to Dependency in Portfolio Optimization Using Overlapping Marginals" (with Karthik Natarajan and Xuan Vinh Doan). *Operations Research*, 63(6), 1468-1488, 2016.

"On Theoretical and Empirical Aspects of Marginal Distribution Choice Models" (with Vinit Mishra, Karthik Natarajan, Dhanesh Padmanabhan and Chung-Piaw Teo). *Management Science*, 60(6), 1511-1531, 2014.

"Distributionally Robust Mixed Integer Linear Programs: Persistency Models with Applications" (with Karthik Natarajan, Chung-Piaw Teo, Zhichao Zheng). *European Journal of Operational Research*, 233(3), 459-473, 2014.

PAPERS UNDER REVIEW

"Inventory Repositioning in On-Demand Product Rental Networks" (with Xiang Li, Daniel Jiang, and Saif Benjaafar). *Minor revision at Management Science*, 2021.

"Optimal Policies and Heuristics to Match Supply with Demand for Online Retailing" (with Yun Fong Lim and Fang Liu). *Major revision at Management Science*, 2020.

"Assortment Optimization under Heteroscedastic Data" (with Selin Damla Ahipasaoglu and Zeyu Sun). *Reject and Resubmit at Operations Research*, 2020.

RESEARCH GRANTS

Start-up Grant, "Modelling Correlations in Discrete Choice Models", 2018

Ministry of Education Academic Research Fund Tier 3, "Science of Prescriptive Analytics: Solvers, Platforms and Applications", 2020

TEACHING EXPERIENCE

Industrial Systems Engineering and Management, National University of Singapore

Instructor

- IE 4211 Modeling and Analytics, Spring 2019, Spring 2020, Spring 2021
- IE 6881 Revenue Management, Fall 2019, Spring 2021
- IE 6099 ISE Research Methodology, Fall 2020

Industrial and Systems Engineering, University of Minnesota

Instructor

- IE 5553 Simulation, Spring 2016, Spring 2017

Teaching Assistant

- IE 3012 Optimization II, Fall 2015, Fall 2016
- IE 3521 Statistics, Quality and Reliability, Fall 2013, Spring 2014

Engineering Systems and Design, Singapore University of Technology and Design

Co-Instructor

- 10.007 Modelling the Systems World, Spring 2013

Management Sciences, City University of Hong Kong

Course Tutor

- MS 8941 Linear & Discrete Optimization, Fall 2011

Teaching Assistant

- CB 2201 Quantitative Methods, Spring 2012

Academic Honors and Awards

Council of Graduate Students (COGS) Travel Grants, University of Minnesota 2016

Second Place in INFORMS Financial Services Section Best Student Paper Competition 2013

Finalist in INFORMS Poster Competition 2013

College of Science and Engineering Fellowship, University of Minnesota 2013 - 2014

Outstanding Student Scholarship, University of Science and Technology of China 2006 - 2009

Selected Invited Talks

Invited Talk, POMS Annual Meeting, Washington D.C. 2019

Job Talk Seminar, Department of Industrial Engineering and Operations Research, Columbia University, New York City 2018

Job Talk Seminar, MIT Sloan School of Management, Boston 2018

Job Talk Seminar, Imperial College Business School, London 2018

Invited Talk, The Fourth Amazon Annual Graduate Research Symposium, Seattle 2017