

Renyuan Xu

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EDUCATION

University of California, Berkeley

Overall GPA: 4.0/4.0

Ph.D. Candidate in Industrial Engineering and Operations Research Department

August 2014 - May 2019 (expected)

Advisor: Xin Guo

University of Science and Technology of China

August 2010 - June 2014

B.S. Mathematics

Overall GPA: 4.01/4.3

University of Sydney

August 2012 - December 2012

Exchange Student, Mathematics Department

Overall GPA: 4.00/4.00

RESEARCH INTERESTS

- Stochastic Control and Stochastic Games
- Data-driven and Online Decision Making
- Machine Learning with Applications in Big Data
- Market Microstructure and High Frequency Trading
- Dynamic Resource Allocation and Management

HONORS

- Second Prize, Citadel Data Competition, Berkeley September, 2018
- Berkeley IEOR Summer Research Grant 2018
- Berkeley IEOR First Year Fellowship 2014-2015
- National Scholarship in China (2% of the department) 2013-2014
- UCLA Summer School Fellowship 2013
- National Scholarship in China (2% of the department) 2012-2013

RESEARCH

- X. Guo, R. Xu. "Stochastic games for fuel followers problem: N vs MFG," Under revision at SIAM Journal of Control and Optimization, 2018.
- X. Guo, A. Hu, R. Xu and J. Zhang. "Consistency and Computation of regularized MLEs for Multivariate Hawkes Processes," Submitted, 2018.
- X. Guo, W. Tang, and R. Xu. "A class of stochastic games and moving free boundary problems," Submitted, 2018.
- X. Guo, CA Lehalle, and R. Xu. "Stylized facts on price formation of corporate bonds and best execution analysis," Preprint, 2018.
- X. Guo, R. Xu. "Pareto optimality and price of anarchy for stochastic games with singular controls," Preprint, 2018.
- X. Guo, A. Hu, R. Xu and J. Zhang. "Contextual bandit with heavy tail," Working paper, 2018
- R. Almgren, R. Xu. "Smart order routing via statistical learning method," Working paper, 2018.

EXPERIENCE	<p><i>Quantitative Researcher Intern</i> June 2017 - August 2017</p> <p>Quantitative Brokers, New York, NY</p> <ul style="list-style-type: none"> • Apply statistical learning techniques to build an ensemble model for the prediction of the probability of order fulfillments. Techniques include Random Forest, Gradient Boosting and Recurrent Neural Network. • Model integrated in cash treasury market production system.
INVITED TALKS	<ul style="list-style-type: none"> • 9th Western Conference in Mathematical Finance, University of Southern California, Los Angeles, CA. (November 2018) • Informs Annual Meeting, Phoenix, AZ. (November 2018) <ul style="list-style-type: none"> • Selected as one of the four finalists to present in the Applied Probability Society Best Student Paper Competition • Mathematical Finance Seminars, University of Southern California, Los Angeles, CA. (September 2018) • Probability and Computational Finance Seminars, Carnegie Mellon University, Pittsburgh, PA. (August 2018) • Berkeley-Stanford Workshop on Mathematical and Computational Finance, Stanford, CA. (July 2018) • Berkeley-Columbia Meeting in Engineering and Statistics, Columbia University, New York, NY. (April 2018) • Probability Seminar, University of Science and Technology of China, Hefei, China. (December 2017) • Informs Annual Meeting, Houston, TX. (October 2017) • Fourth Annual Young Researchers Workshop on Data-driven and Decision Making, Cornell University, Ithaca, NY. (October 2017)
POSTER PRESENTATIONS	<ul style="list-style-type: none"> • Market Microstructure The CFM-Imperial Workshop, London, UK. (December 2017)
RELEVANT COURSEWORK	<ul style="list-style-type: none"> • <i>Math and Probability:</i> Partial Differential Equations (I & II), Applied Stochastic Process (I & II), Probability Theory (I & II), Advanced Topics in Stochastic Processes. • <i>Optimization:</i> Mathematical Programming (I & II), Convex Optimization and Approximation, Supply Chain and Logistics Management. • <i>Statistics and Computer Science:</i> Advanced Topics in Learning and Decision Making, Theoretical Statistics, Nonparametric and Robust Methods, Mathematical Statistics, Deep Reinforcement Learning. • <i>Finance:</i> Financial Engineering (I & II).
REFeree LIST	<ul style="list-style-type: none"> • Professor Xin Guo (IEOR Department, UC Berkeley) • Professor Jim Pitman (Statistics Department, UC Berkeley) • Charles-Albert Lehalle (CFM) • Robert Almgren (Quantitative Brokers)

TEACHING EXPERIENCE

- Graduate Student Instructor: provide weekly discussion sessions, office hours, and homework solutions.
 - Capstone project mentor for IEOR master students, Spring 2018
 - IEOR 222: Financial Engineering System (Graduate), Fall 2016/Spring 2018
 - IEOR 241: Risk Modeling, Simulation, and Data Analysis (Graduate), Fall 2017
 - IEOR 263B: Applied Stochastic Processes II (Graduate), Spring 2017
 - IEOR 161: Operations Research II, Spring 2016
 - E120: Introduction to Financial Economics, Fall 2015
 - UGBA 103: Introduction to Finance, Summer 2015

TECHNOLOGY SKILLS

- Programming:
 - Expert level at development in R, Python, Pandas, PostgreSQL.
 - Proficient at MATLAB, C, C++, Scala, Q/KDB+.
 - Experience with Spark.
- Optimization: CPLEX, AMPL.
- Database: Managing 10TB Finance Data for RADAR Lab.

LAST UPDATED October 7th, 2018