Zhou Zhou

Contact Information

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Research Interests

Mathematical finance, stochastic control, optimal stopping, applied probability.

Employment

- Postdoctoral Fellow, Institute for Mathematics and its Applications, University of Minnesota, September 2015-present.

Education

University of Michigan, Ann Arbor, Michigan, USA

Ph.D. in Applied and Interdisciplinary Mathematics **April 2015**

- **Advisor:** Prof. Erhan Bayraktar

Nankai University, Tianjin, China

B.S., Mathematics (GPA is Top 1 among 58) **June 2010**

Honors and Awards

- Rackham Conference Travel Grant, University of Michigan, 2014.
- SIAM Student Travel Award to attend the SIAM Conference on Financial Mathematics and Engineering, 2014.
- Alice Webber Glover in Math Scholarship, 2014.
- Rackham International Student Fellowship, 2013.
- Mathematics Departmental Scholarship, University of Michigan, 2011, 2012.
- Title of "Outstanding Graduate with Bachelor Degree", Nankai University, 2010.
- National Scholarship, Nankai University, 2009.
- Top-Grade Beiyecaituan Scholarship, Nankai University, 2008.
- First Prize of Excellent Undergraduate Scholarship, Nankai University, 2007, 2008.

Publications

- On an Optimal Stopping Problem of an Insider, (with Erhan Bayraktar), to appear in **Theory of Probability and Its Applications**.
- On Hedging American Options under Model Uncertainty, (with Erhan Bayraktar and Yu-Jui Huang), to appear in **SIAM Journal on Financial Mathematics (SIFIN)**.
- On Arbitrage and Duality under Model Uncertainty and Portfolio Constraints, (with Erhan Bayraktar), to appear in **Mathematical Finance**.
- A Note on the Fundamental Theorem of Asset Pricing under Model Uncertainty, (with Erhan Bayraktar and Yuchong Zhang), **Risks**, 2(4), 425-433, 2014.
- On Controller-stopper Problems with Jumps and Their Applications to Indifference Pricing of American Options, (with Erhan Bayraktar), **SIFIN (SIAM Journal on Financial Mathematics)**, 5 (1), 20-49, 2014.

Preprints

- Arbitrage, Hedging and Utility Maximization Using Semi-static Trading Strategies with American Options, with Erhan Bayraktar, 2015.
- On a Stopping Game in Continuous Time, with Erhan Bayraktar, 2014.

- On Zero-sum Optimal Stopping Games, with Erhan Bayraktar, 2014.

Presentations

- Stochastic Portfolio Theory and related topics, Columbia University, May 8 and 9, 2015.
- Financial/Actuarial Mathematics Seminar, University of Michigan, Apr 1, 2015.
- Financial/Actuarial Mathematics Seminar, University of Michigan, Dec 10, 2014.
- Mini-symposium speaker at the SIAM Conference on Financial Mathematics and Engineering, Nov 13-15, 2014.
- Financial/Actuarial Mathematics Seminar, University of Michigan, Mar 26, 2014.
- Financial/Actuarial Mathematics Seminar, University of Michigan, Jan 29, 2014.
- Financial/Actuarial Mathematics Seminar, University of Michigan, Dec 10, 2012.

Research Visits

- AMS MRC workshop in Financial Mathematics, Snowbird Resort, Utah, June 14-20, 2015.
- Stochastic Portfolio Theory and related topics, Columbia University, May 8 and 9, 2015.
- SIAM Conference on Financial Mathematics and Engineering, November 13-15, 2014.
- Conference on Stochastic Asymptotics & Applications Joint with Sixth Western Conference on Mathematical Finance, September 25-27, 2014.
- Workshop on Stochastic Games, Equilibrium, and Applications to Energy & Commodities Markets, August 27-29, 2013.
- Probability, Control and Finance, a conference in honor of Ioannis Karatzas, Columbia University, June 4-8, 2012.
- The Mathematics of the New Financial Systems, University of Minnesota, May 17-19, 2012.
- Mathematical Modeling in Industry XV – a Workshop for Graduate Students, University of Minnesota, August 3-12, 2011.
- Workshop on Stochastic Analysis in Finance and Insurance, University of Michigan, May 17-20, 2011.
- New Perspectives in Nonlinear PDE's, University of Michigan, May 2-6, 2011.

Teaching Experience

Instructor

- Math 216 Calculus IV (lab and recitation), Fall 2014.
- Math 215 Calculus III (lab and recitation), Fall 2012.
- Math 115 Calculus I (primary instructor), Winter 2012.
- Math 105 Pre-calculus (primary instructor), Fall 2011.

Teaching assistant

- Math 623 Computational Finance, Fall 2013.

Tutor

- To answer various math questions from all levels of undergraduate students in the math tutoring lab, Fall 2010, Winter 2011.

Service

- Reviewer for: Mathematical Finance, Mathematical Methods of Operations Research, Mathematics of Operations Research, SIAM Journal on Control and Optimization.

Computer skills Matlab, C++, LaTeX, Maple, Microsoft Office