Jiamin Jian

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Employment

University of Michigan, Department of Mathematics — Ann Arbor, MI, USA
Postdoctoral Assistant Professor — Aug. 2024 – Present

Education

Worcester Polytechnic Institute — Worcester, MA, USA
Ph.D. in Mathematical Sciences — May 2024
Advisor: Prof. Qingshuo Song

City University of Hong Kong — Hong Kong
M.S. in Mathematical Finance and Statistics — Jul. 2019

Nankai University — Tianjin, China
B.S. in Mathematics and Applied Mathematics — Jun. 2018
B.M. in Financial Management

Research Interests

Stochastic Control, Mean Field Games, Financial Mathematics

Preprints and Publications

1. On modified Euler schemes for McKean-Vlasov stochastic differential equations with super-linear coefficients. With Qingshuo Song, Xiaojie Wang, Zhongqiang Zhang, and Yuying Zhao.
2. Long-time behaviors of stochastic linear-quadratic optimal control problems. With Sixian Jin, Qingshuo Song and Jiongmin Yong. *arXiv:2409.11633*. [arXiv]
3. Convergence rate of LQG mean field games with common noise. With Qingshuo Song and Jiaxuan Ye. *Mathematical Methods of Operations Research, Vol. 99, 38 pages, 2024*. [Journal][arXiv]
4. The convergence rate of the equilibrium measure for the hybrid LQG mean field game. With Peiyao Lai, Qingshuo Song, and Jiaxuan Ye. *Nonlinear Analysis: Hybrid Systems, Vol. 52, 28 pages, 2024*. [Journal] [arXiv]
5. On the graphon mean field game equations: Individual agent affine dynamics and mean field dependent performance functions. With Peter E. Caines, Daniel Ho, Minyi Huang, and Qingshuo Song. *ESAIM: Control, Optimisation and Calculus of Variations, Vol. 28, Article 24, 24 pages, 2022*. [Journal] [arXiv]

Teaching Experience

Lecturer, University of Michigan — Aug. 2024 – Present

- MATH 423: Mathematics of Finance (Fall 2024)

Teaching Assistant, Worcester Polytechnic Institute — Jan. 2021 – May 2024

- MA 1022: Calculus II (Fall 2021; Summer 2022)
- MA 1023: Calculus III (Summer 2022)

- MA 2051: Ordinary differential equation (Spring 2022)
- MA 2210: Mathematical methods in decision making (Spring 2021; Spring 2022)
- MA 2071: Linear algebra (Summer 2022; Summer 2023)
- MA 2631: Probability theory (Spring 2021; Spring 2022; Summer 2023)
- MA 3257: Numerical methods for linear and nonlinear systems (Spring 2021)
- MA 3831: Principles of real analysis I (Fall 2023)
- MA 3832: Principles of real analysis II (Fall 2023)
- MA 501: Engineering mathematics (Fall 2023)
- MA 503: Lebesgue measure and integration (Fall 2022)
- MA 510: Numerical methods (Fall 2022)

Invited Talks

- Financial/Actuarial Mathematics Seminar, University of Michigan, September 25, 2024
- Mathematics Seminar, School of Mathematics and Statistics, Huazhong University of Science and Technology, June 25, 2024
- Mathematics Seminar, School of Control Science and Engineering, Shandong University, May 28, 2024
- Informal Systems Seminars, Centre for Intelligent Machines, McGill University, February 16, 2024
- Financial/Actuarial Mathematics Seminar, University of Michigan, December 20, 2023
- The 36th New England Statistics Symposium, Frontiers of Mathematical Finance, Boston University, June 5, 2023
- Mathematical Finance Seminar, Worcester Polytechnic Institute, December 5, 2022
- Department of Industrial Engineering and Operations Research, University of California, Berkeley, Prof. Xin Guo's group meeting, December 1, 2020

Conferences Attendance

- Symposium on Frontiers of Mathematics and Analysis, Control and Application of Complex Systems, Shandong University, Online, November 15, 2023
- SIAM Conference on Financial Mathematics and Engineering, Philadelphia, June 6-9, 2023
- The 36th New England Statistics Symposium, Boston, June 5, 2023
- Joint Mathematics Meetings, Boston, January 6-7, 2023
- Gene Golub SIAM Summer School, Gran Sasso Science Institute, L'Aquila, Italy, August 1-13, 2022
- Symposium on Stochastic Hybrid Systems and Applications (Part II), University of Connecticut, Connecticut, November 12-13, 2021
- 5th Eastern Conference on Mathematical Finance, Rutgers University, online, October 1-3, 2021
- Symposium on Stochastic Hybrid Systems and Applications (Part I), University of Connecticut, Connecticut, July 8-9, 2021
- IMSI Summer Short Program, Introduction to Mean Field Games and Applications, online, June 1-25, 2021

Professional Service

Referee for Peer-reviewed Journals

- Asian Journal of Control
- IEEE Control Systems Letters
- IEEE Transactions on Automatic Control
- IMA Journal of Mathematical Control and Information
- Numerical Algebra, Control and Optimization
- SIAM Journal on Control and Optimization

Honors and Scholarships

- 2024 PhD Research Award, Department of Mathematical Sciences, Worcester Polytechnic Institute, 2024
- WPI Graduate Travel Fund Award, Department of Mathematical Sciences, Worcester Polytechnic Institute, 2023
- Graduate Student with Distinction, City University of Hong Kong, 2019
- Nankai University scholarships, Nankai University, 2016 and 2017
- Yitian-Yinfeng-Emerson scholarships, Business School of Nankai University, 2016 and 2017
- First Prize of Undergraduate Students Mathematics Competition of Universities in Tianjin, Tianjin, 2015
- National scholarships, Nankai University, 2015

Skills

- Programming and Software: Python, MATLAB, R, LaTeX, Microsoft Office
- Licenses and Certifications: CFA Level I
- Languages: English (fluent), Chinese (native)