Anran Hu

Personal website: https://anranhu.github.io/
Email: Anran.Hu@maths.ox.ac.uk

POSITION

University of Oxford *Sept.2022 - present*
Hooke Research Fellow, Mathematical Institute, Oxford

EDUCATION

University of California, Berkeley *Aug.2016 - Aug.2022*
Ph.D., Industrial Engineering and Operations Research
M.S., Industrial Engineering and Operations Research
GPA: 4.00/4.00, Advisor: Xin Guo

Peking University *Sept.2012 - July.2016*
B.S., Mathematics
GPA: 3.74/4.00, Advisor: Zaiwen Wen

RESEARCH INTERESTS

- Applied probability, stochastic control and games
- Reinforcement learning and machine learning
- FinTech

RESEARCH

- X. Guo, A. Hu and J. Zhang. MF-OMO: An Optimization Formulation of Mean-Field Games. Submitted.
- X. Guo, A. Hu and J. Zhang. Theoretical Guarantees of Fictitious Discount Algorithms for Episodic Reinforcement Learning and Global Convergence of Policy Gradient Methods. *Proceedings of the AAAI Conference on Artificial Intelligence 36 (6), 6774-6782.*
- X. Guo , A. Hu and Y. Zhang. Reinforcement Learning for Linear-Convex Models with Jumps via Stability Analysis of Feedback Controls. Accepted, *SIAM Journal on Control and Optimization.*
- M. Basei, X. Guo, A. Hu and Y. Zhang. Logarithmic Regret for Episodic Continuous-Time Linear-Quadratic Reinforcement Learning over a Finite-Time Horizon. *Journal of Machine Learning Research, 23 (178), 1-34.*

- X. Guo, A. Hu, R. Xu and J. Zhang. A General Framework for Learning Mean-Field Games. To appear, *Mathematics of Operations Research.*
- X. Guo, A. Hu, R. Xu and J. Zhang. Learning Mean-Field Games. *Advances in Neural Information Processing Systems, 32 (NeurIPS 2019).*
- X. Guo, A. Hu, R. Xu and J. Zhang. Consistency and Computation of Regularized MLEs for Multivariate Hawkes Processes. NeurIPS 2018 Workshop on Causal Learning.

INDUSTRY EXPERIENCE

Amazon.com LLC, Seattle, WA
Applied Scientist Intern *May.2019 - Aug.2019*
Manager: Dr. Xinyang Shen
Data-Driven Large-Scale Inbound Behavior Prediction for Third-Party Sellers.

INVITED TALKS

- North-East and Midlands Stochastic Analysis Seminar, Oxford, 2022.
- SIAM Annual Meeting, Pittsburgh, PA, 2022.
- IMSI Workshop on Machine Learning and Mean-Field Games, Chicago, IL, 2022.
- INFORMS Annual Meeting, Virtual, 2020.
- Neural Information Processing Systems, Poster, Vancouver, 2019.
- INFORMS Annual Meeting, Seattle, WA, 2019.
- INFORMS Annual Meeting, Phoenix, AZ, 2018.
- Berkeley-Stanford Workshop on Mathematical and Computational Finance, Stanford University, CA, 2018.

TEACHING EXPERIENCE

Instructor, UC Berkeley
- IEOR 242: Applications in Data Analysis (Graduate), Spring 2022.

Graduate Student Instructor, UC Berkeley
- IEOR 263B: Applied Stochastic Process II (Graduate), Spring 2020.
- IEOR 241: Risk Modeling, Simulation, and Data Analysis (Graduate), Fall 2019, Fall 2021.
- IEOR 221: Introduction to Financial Engineering (Graduate), Fall 2020.
- IEOR 172: Probability and Risk Analysis for Engineers, Fall 2017.

- IEOR 120: Principles of Engineering Economics, Fall 2018, Spring 2019.
- IEOR 170: Industrial Design and Human Factors, Spring 2018.

HONORS & AWARDS

- Outstanding Graduate Student Instructor, UC Berkeley 2021
- Berkeley Marshall-Oliver-Rosenberger Fellowship, UC Berkeley 2020
- NeurIPS Travel Award 2019
- Berkeley IEOR First Year Faculty Fellowship Award 2017
- Baosteel Scholarship, Peking University 2015
- Meritorious Award of 2015 ICM 2015
- First Prize of 2015 Challenge Cup, Peking University 2015

RELEVANT COURSES

Probability Theory	Applied Stochastic Processes I, II
Theoretical Statistics	Convex Optimization and Approximation
Financial Engineering Systems	Mathematical Programming I, II
Learning and Optimization	Statistical Models: Theory and Application

TECHNICAL SKILLS

Programming & Software: Python, R, Matlab, SQL, LaTeX.