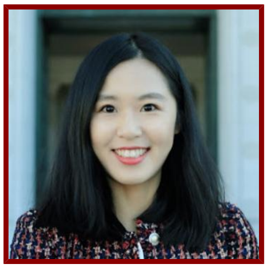
Stanford



Renyuan Xu

Assistant Professor of Management Science and Engineering

Bio

BIO

Renyuan Xu is an assistant professor of Management Science and Engineering (MS&E) at Stanford University. Prior to joining Stanford, she held positions at New York University (2024-2025) and the University of Southern California (2021–2024), and was a Hooke Research Fellow at the Mathematical Institute, University of Oxford (2019–2021). She received her Ph.D. in Operations Research from the University of California, Berkeley in 2019. Renyuan's current research interests include mathematical finance, stochastic analysis, stochastic controls and games, and machine learning theory. She received an NSF CAREER Award in 2024, the SIAM Activity Group on Financial Mathematics and Engineering Early Career Prize in 2023, and two JP Morgan AI Faculty Research Awards in 2022 and 2025.

ACADEMIC APPOINTMENTS

- Assistant Professor, Management Science and Engineering
- Member, Institute for Computational and Mathematical Engineering (ICME)

HONORS AND AWARDS

- Jagdeep and Roshni Singh Faculty Fellow, Stanford (2025-)
- JP Morgan AI Faculty Research Award, JP Morgan Chase (2025)
- NSF CAREER Award, National Science Foudnation (2024)
- SIAM Activity Group on Financial Mathematics and Engineering Early Career Prize, Society for Industrial and Applied Mathematics (SIAM) (2023)
- JP Morgan AI Faculty Research Award, JP Morgan Chase (2022)

PROFESSIONAL EDUCATION

- Ph.D., University of California, Berkeley , Operations Research (2019)
- B.S., University of Science and Technology of China , Applied Mathematics (2014)

LINKS

- Personal Website: https://renyuanxu.github.io/

Teaching

COURSES

2025-26

- Advanced Investment Science: MS&E 245B (Win)
- Machine Learning for Algorithmic Trading: MS&E 242 (Spr)

- Stochastic Systems and Learning Theory with Applications in Finance: MS&E 342 (Spr)

STANFORD ADVISEES

Doctoral Dissertation Co-Advisor (AC)

Puheng Li

Doctoral (Program)

Yinbin Han, Lutong Hao, Jingwei Ji, Chenghan Xie

Publications

PUBLICATIONS

- **Inference of Utilities and Time Preference in Sequential Decision-Making** *APPLIED MATHEMATICS AND OPTIMIZATION*
  Cao, H., Wu, Z., Xu, R.
  2025; 92 (3)

- **TAIL-GAN: Learning to Simulate Tail Risk Scenarios** *MANAGEMENT SCIENCE*
  Cont, R., Cucuringu, M., Xu, R., Zhang, C.
  2025

- **POLICY GRADIENT CONVERGES TO THE GLOBALLY OPTIMAL POLICY FOR NEARLY LINEAR-QUADRATIC REGULATORS** *SIAM JOURNAL ON CONTROL AND OPTIMIZATION*
  Han, Y., Razaviyayn, M., Xu, R.
  2025; 63 (4): 2936-2963

- **Model-Free Analysis of Dynamic Trading Strategies** *SIAM JOURNAL ON FINANCIAL MATHEMATICS*
  Ananova, A., Cont, R., Xu, R.
  2025; 16 (2): 643-666

- **Delay-Adaptive Learning in Generalized Linear Contextual Bandits** *MATHEMATICS OF OPERATIONS RESEARCH*
  Blanchet, J., Xu, R., Zhou, Z.
  2023

- **A General Framework for Learning Mean-Field Games** *MATHEMATICS OF OPERATIONS RESEARCH*
  Guo, X., Hu, A., Xu, R., Zhang, J.
  2022

- **Learning Mean-Field Games**
  Guo, X., Hu, A., Xu, R., Zhang, J.
  edited by Wallach, H., Larochelle, H., Beygelzimer, A., d'Alche-Buc, F., Fox, E., Garnett, R.
  NEURAL INFORMATION PROCESSING SYSTEMS (NIPS).2019

- **Learning in Generalized Linear Contextual Bandits with Stochastic Delays**
  Zhou, Z., Xu, R., Blanchet, J.
  edited by Wallach, H., Larochelle, H., Beygelzimer, A., d'Alche-Buc, F., Fox, E., Garnett, R.
  NEURAL INFORMATION PROCESSING SYSTEMS (NIPS).2019