

Ruoxuan Xiong

Email: rxiongpk@gmail.com and ruoxuan.xiong@emory.edu

Homepage: <http://www.ruoxuanxiong.com/>

Education

- 2020 **Ph.D.** in Management Science and Engineering, Stanford University, Stanford, CA
- 2014 **B.S.** in Urban and Rural Planning & **B.S.** in Mathematics, Peking University, Beijing

Professional Experiences

- 2021- *Assistant Professor*, Department of Quantitative Theory & Methods, (by courtesy) Information Systems & Operations Management, and Economics
Emory University, Atlanta, GA
- 2020-2021 *Postdoctoral Researcher*, Graduate School of Business, Stanford University, Stanford, CA

Publications

* Asterisk indicates equal contribution or alphabetical authorship.

* See also Google Scholar for additional publication information.

Journal Publications

Optimal Experimental Design for Staggered Rollouts, by R. Xiong, S. Athey, M. Bayati, and G. Imbens, *Management Science*, 2024

Target PCA: Transfer Learning Large Dimensional Panel Data, by J. Duan*, M. Pelger*, and R. Xiong*, *Journal of Econometrics*, 2024

Federated Causal Inference in Heterogeneous Observational Data, by R. Xiong, A. Koennecke, M. Powell, Z. Shen, J.T. Vogelstein, and S. Athey, *Statistics in Medicine*, 2023

Large Dimensional Latent Factor Modeling with Missing Observations and Applications to Causal Inference, by R. Xiong and M. Pelger, *Journal of Econometrics*, 2023

Interpretable Sparse Proximate Factors for Large Dimensions, by M. Pelger* and R. Xiong*, *Journal of Business & Economic Statistics*, 2022

State-Varying Factor Models of Large Dimensions, by M. Pelger* and R. Xiong*, *Journal of Business & Economic Statistics*, 2022

Conference Publications

Higher-Order Causal Message Passing for Experimentation Under Unknown Interference, by M. Bayati*, Y. Luo*, W. Overman*, S. Shirani*, and R. Xiong*, *NeurIPS 2024*

Two-Stage Shadow Inclusion Estimation: An IV Approach for Causal Inference under Latent Confounding and Collider Bias, by B. Li, A. Wu, R. Xiong, and K. Kuang, *ICML 2024*

Learning Shadow Variable Representation for Treatment Effect Estimation under Collider Bias, by B. Li, H. Li, R. Xiong, A. Wu, F. Wu, and K. Kuang, *ICML 2024*

Stable Estimation of Heterogeneous Treatment Effects, by A. Wu, K. Kuang, R. Xiong, B. Li, and F. Wu, *ICML 2023*

Stable Prediction with Model Misspecification and Agnostic Distribution Shift, by K. Kuang, R. Xiong, P. Cui, S. Athey, and B. Li, *AAAI 2020*

Stable Predictions across Unknown Environments, by K. Kuang, P. Cui, S. Athey, R. Xiong, and B. Li, *KDD 2018*. *Oral presentation*

Working Papers

Data-Driven Switchback Experiments: Theoretical Tradeoffs and Empirical Bayes Designs, by R. Xiong, A. Chin, and S. J. Taylor

Factor Analysis for Causal Inference on Large Non-Stationary Panels with Endogenous Treatment, by J. Duan*, M. Pelger*, and R. Xiong*

Semiparametric Estimation of Treatment Effects in Observational Studies with Heterogeneous Partial Interference, by Z. Qu*, R. Xiong*, J. Liu, and G. Imbens

Teaching

Machine Learning

Fall 2023, Spring 2024, Fall 2024

Undergraduate-level course that introduces students to the field of ML and its applications in natural and social sciences.

Causal Inference and Machine Learning

Fall 2021, Spring 2022, Fall 2022

Undergraduate-level course that covers the intersections of causal inference and machine learning and their applications in social sciences.

Quantitative Finance

Fall 2022, Spring 2023, Fall 2023, Fall 2024

Undergraduate-level course that covers portfolio optimization, asset pricing, derivatives, and financial machine learning.

Invited Presentations

- 2024 MIT Data Science Lab, University of Maryland, ASSA (discussant), NBER Summer Institute, Georgia Econometrics Workshop, ENAR Spring Meeting, Design and Analysis of Experiments Conference, Marketplace Innovation Workshop, MSOM Conference, SEM Annual Meeting, INFORMS Annual Meeting
- 2023 Yale, NYU, Lyft Rideshare Labs, Amazon, North American Summer Meeting of the Econometric Society, University of Rochester, Conference on Health IT and Analytics, American Causal Inference Conference, Methodology, Organization, and Management workshop, New York Camp Econometrics XVII, INFORMS Annual Meeting
- 2022 Microsoft Research, Boston University, University of Washington, NUS, NBER-NSF Time Series Conference, American Causal Inference Conference, AI/OR Workshop II, Revenue Management and Pricing Conference, INFORMS Annual Meeting, Marketplace Innovation Workshop, SIAM Annual Meeting
- 2021 Online Causal Inference Seminar, London Business School, Lyft Rideshare Labs, NBER-NSF Time Series Conference, Conference on Digital Experimentation, INFORMS Annual Meeting, INFORMS Healthcare, Manufacturing and Service Operations Management Conference, Marketplace Innovation Workshop, North American Summer Meeting of the Econometric Society, Symposium on Data Science and Statistics, ASSA Annual Meeting
- 2020 UT Austin, Columbia, University of Toronto, University of Florida, Cornell Tech, Cornell, UCSB, UC Berkeley, Stony Brook, Boston University, Chicago Booth, USC Marshall, University of Minnesota, Emory, USC ISyE, Stanford GSB, Shanghai Jiao Tong University, INFORMS Annual Meeting, European Winter Meeting of the Econometric Society
- 2019 UBC Sauder School of Business, UIC Business, Stanford AI for Human Impact Lab, Conference on Digital Experimentation, INFORMS Annual Meeting, Cornell ORIE Young Researchers Workshop, Marketplace Innovation Workshop, Annual SoFiE Conference, SIAM Conference on Financial Maths and Engineering
- 2018 NBER-NSF Time Series Conference, Ninth Western Conference on Mathematical Finance, INFORMS Annual Meeting, California Econometrics Conference, SoFiE Summer School in Chicago on Machine Learning and Finance, North American Summer Meeting of the Econometric Society
- 2017 Conference on Mathematical Modeling in Finance, Eighth Western Conference on Mathematical Finance

Professional Services

Departmental Services: Faculty Search Committee (2021-2022, 2023-2024), Undergraduate Curriculum Revision Committee (2022), Co-organizer of QTM Department Seminar Speaker Series (2021-2023)

Journal Reviewer: Annals of Applied Statistics, Biometrics, Biometrika, Econometrica, Econometrics Journal, European Financial Management, Journal of Business & Economic Statistics, Journal of Econometrics, Journal of Educational and Behavioral Statistics, Journal of Financial Econometrics, Journal of Machine Learning Research, Journal of the American Statistical Association, Journal of Political Economy, Management Science, Manufacturing & Service Operations Management, Operations Research, Review of Economic Studies, Statistical Methods & Applications, and Transactions on Big Data

Conference Reviewer: ICML (2020-2024), NeurIPS (2021-2024), ICLR (2021-2023), INFORMS Manufacturing and Service Operations Management Conference (2023-2024)

Grant Proposal Reviewer: National Science Foundation (2020, 2024), and Research Grants Council of Hong Kong (2023-2024)

INFORMS Session Chair (2023-2024)

President of INFORMS Stanford chapter (2016 - 2017)

Fellowships and Recognitions

2022	ICML Top 10% among all Reviewers
2022	American Causal Inference Conference Travel Award
2020	MSOM Student Paper Competition Finalist
2020	Stanford MS&E Course Assistant Award
2019	George Nicholson Student Paper Competition Honorable Mention
2019-2020	Stanford MS&E Departmental Fellowship
2019-2020	Krishnan Shah Fellowship
2018-2019	William Linville Memorial Fellowship
2017-2018	Charles and Katharine Lin Graduate Fellowship
2014-2015	Stanford School of Engineering Fellowship