Ruohan Zhan

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Academic Employment

London Business School
Assistant Professor of Marketing, 2026–present
University College London
Assistant Professor, Department of Marketing and Analytics, 2025–2026
The Hong Kong University of Science and Technology
Assistant Professor, Department of Industrial Engineering and Decision Analytics, 2023–2025

Education

Stanford University
Postdoctoral Researcher, Graduate School of Business, 2022
Ph.D. in Computational and Mathematical Engineering, 2021
Dissertation: Policy Evaluation and Learning in Adaptive Experiments.
Committee: Susan Athey (advisor), Guido Imbens, Benjamin Van Roy, Stefan Wager
M.S. in Statistics, 2021
Peking University
B.S. in Mathematics, 2017

Industry Experience & Employment

Tencent, Academic Partner, WeChat Experimentation Team, 2023–present
Kuaishou Technology, Senior Algorithmic Engineer, Short-Video Recommendation Team, 2021–2022
Google Brain, Summer Research Intern, Reinforcement Learning for Recommender System Team, 2020
Google Research, Summer Research Intern, Computational Imaging Team, 2019
Cubist Systematic Strategies, Summer Analyst, Equity Team, 2018

Research Interests

Causal Inference and Machine Learning, Online Marketplaces, Digital Marketing, Platform Analytics

Journal Publications

1. Post Reinforcement Learning Inference.
Vasilis Syrgkanis, Ruohan Zhan. **Operations Research** 74.2 (2026): 917-957.

2. Policy Learning with Adaptively Collected Data.
Ruohan Zhan, Zhimei Ren, Susan Athey, Zhengyuan Zhou. **Management Science** 70.8 (2024): 5270–5297.

3. Confidence Intervals for Policy Evaluation in Adaptive Experiments.
Vitor Hadad, David Hirshberg, Ruohan Zhan, Stefan Wager, Susan Athey. **Proceedings of the National Academy of Sciences** 118.15 (2021): e2014602118.

Conference Publications

1. Autoregressive Learning in Joint KL: Sharp Oracle Bounds and Lower Bounds.
Yunbei Xu, Yuzhe Yuan, Ruohan Zhan. Neural Information Processing Systems (**NeurIPS**) 2026.

2. Personalized Policy Learning through Discrete Experimentation.
Zhiqi Zhang, Zhiyu Zeng, Ruohan Zhan, Dennis Zhang. International Conference on Machine Learning (**ICML**) 2026.

3. Distributionally Robust Policy Learning under Concept Drifts.
Sharon Wang, Zhimei Ren, Ruohan Zhan, Zhengyuan Zhou. International Conference on Machine Learning (**ICML**) 2025.

4. Adaptively Learning to Select-Rank in Online Platforms.
Sharon Wang, Perry Dong, Ying Jin, Ruohan Zhan, Zhengyuan Zhou. International Conference on Machine Learning (**ICML**) 2024.

5. Statistical Properties of Robust Satisficing.
Zhiyi Li, Yunbei Xu, Ruohan Zhan. International Conference on Machine Learning (**ICML**) 2024.

6. Proportional Response: Contextual Bandits for Simple and Cumulative Regret Minimization.
Sanath Kumar Krishnamurthy, Ruohan Zhan, Susan Athey, Emma Brunskill. Neural Information Processing Systems (**NeurIPS**) 2023.

7. ResAct: Reinforcing Long-Term Engagement in Sequential Recommendation with Residual Actor.
Wanqi Xue, Qingpeng Cai, Ruohan Zhan, Dong Zheng, Peng Jiang, Kun Gai, Bo An. International Conference on Learning Representations (**ICLR**) 2023.

8. Fragility Index: A New Approach for Binary Classification.
Chen Yang, Ziqiang Zhang, Bo Cao, Zheng Cui, Bin Hu, Tong Li, Daniel Zhuoyu Long, Jin Qi, Feng Wang, Ruohan Zhan. ACM Conference on Knowledge Discovery and Data Mining (**KDD**) 2023.

9. Two-Stage Constrained Actor-Critic for Short Video Recommendation.
Qingpeng Cai, Zhenghai Xue, Chi Zhang, Wanqi Xue, Shuchang Liu, Ruohan Zhan, Xueliang Wang, Tianyou Zuo, Wentao Xie, Dong Zheng, Peng Jiang, Kun Gai. The Web Conference (**WWW**) 2023.

10. Deconfounding Duration Bias in Watch-Time Prediction for Video Recommendation.
Ruohan Zhan, Changhua Pei, Qiang Su, Jianfeng Wen, Xueliang Wang, Guanyu Mu, Dong Zheng, Peng Jiang. ACM Conference on Knowledge Discovery and Data Mining (**KDD**) 2022.

11. Off-Policy Evaluation via Adaptive Weighting with Data from Contextual Bandits.
Ruohan Zhan, Vitor Hadad, David Hirshberg, Susan Athey. ACM Conference on Knowledge Discovery and Data Mining (**KDD**) 2021.

12. Towards Content Provider Aware Recommender Systems: A Simulation Study on the Interplay between User and Provider Utilities.
Ruohan Zhan, Konstantina Christakopoulou, Ya Le, Jayden Ooi, Martin Mladenov, Alex Beutel, Craig Boutilier, Ed Chi, Minmin Chen. The Web Conference (**WWW**) 2021.

13. Distortion Agnostic Deep Watermarking.
Xiyang Luo, Ruohan Zhan, Huiwen Chang, Feng Yang, Peyman Milanfar. IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**) 2020.

Working Papers

1. Estimating Treatment Effects under Algorithmic Interference: A Structured Neural Networks Approach.
   Ruohan Zhan, Shichao Han, Yuchen Hu, Zhenling Jiang. Extended abstract appeared in ACM Conference on Economics and Computation (**EC**) 2024. Presented at:
   - Quantitative Marketing and Economics Conference, 2024
   - Frank M. Bass – UT Dallas Frontiers of Research in Marketing Science (UTD FORMS) Conference, 2026
2. Personalized Policy Learning through Discrete Experimentation: Theory and Empirical Evidence.
   Zhiqi Zhang, Zhiyu Zeng, Ruohan Zhan, Dennis Zhang. Short version appeared in International Conference on Machine Learning (**ICML**) 2026.
3. Fragility-aware Classification for Understanding Risk and Improving Generalization.
   Chen Yang, Zheng Cui, Daniel Zhuoyu Long, Jin Qi, Ruohan Zhan. Short version appeared in ACM Conference on Knowledge Discovery and Data Mining (**KDD**) 2023.
4. Autoregressive Learning under Joint KL Analysis: Horizon-Free Approximation and Computational-Statistical Tradeoffs.
   Yunbei Xu, Yuzhe Yuan, Ruohan Zhan. Short version appeared in Neural Information Processing Systems (**NeurIPS**) 2026.

Work in Progress

1. Identifying Vector Engagement Effects in Confounded Dynamic Systems.
   With Carl Mela and Shichao Han.
2. How Suicide Risk Unfolds in Private Conversations with LLMs.
   With Violet (Ziqing) Li, Huiran Li, Yuanhong Ma, Xitong Li.

Academic Presentations

Identifying Vector Engagement Effects in Confounded Dynamic Systems.

ISMS Marketing Science Conference (2026); Informs Annual Meeting (2026)

Estimating Treatment Effects under Algorithmic Interference: A Structured Neural Networks Approach.

HEC Paris Business School (2026); London Business School (2026); INFORMS Annual Meeting (2025); ISMS Marketing Science Conference (2025); INSEAD (2024); MIT Data Science Lab (2024); Rotman Young Scholar Seminar (virtual, 2024); Duke University (2024); Yale University (2024); University College London (2024); Netflix Experimentation Team (virtual, 2024); Quantitative Marketing and Economics Conference (2024); University of Washington (2024); ACM Conference on Economics and Computation (EC 2024); National University of Singapore (2024); Conference on Digital Experimentation (2023)

Personalized Policy Learning through Discrete Experimentation: Theory and Empirical Evidence.

Junior Faculty Forum in Marketing (WashU Olin, 2025)

Post Reinforcement Learning Inference.

Markov Decision Process and Reinforcement Learning Workshop (Cambridge, 2023); TrustML Young Scientist Seminar (virtual, 2023); The Chinese University of Hong Kong (2023); Renmin University of China (2023)

Policy Learning with Adaptively Collected Data.

Emory University (2022); One World YoungStatS Webinar (virtual, 2022)

Mentorship

Zhiqi Zhang (2026, Committee Member and JMP Coauthor), WashU Olin OM PhD, Assistant Professor of Marketing, University of Notre Dame

Chen Yang (2025, Coauthor), HKUST IEDA PhD, Assistant Professor of Operations Management, Zhejiang University

Teaching Experience

MSIN0310: Pricing Management (UCL, master's level)

IEDA4000D: Introduction to Causal Inference (HKUST, undergraduate level)

IEDA3560: Predictive Analytics (HKUST, undergraduate level)

Awards and Honors

ISMS Early Career Scholars Camp Fellow, Columbia University, 2025

Rising Scholar, Chicago Booth, 2022

PayPal Fellowship, Stanford University, 2020

D.E. Shaw Exploration Fellowship, Stanford University, 2019

TOTAL Innovation Fellowship, Stanford University, 2018–2019

First Prize of Citadel Datathon at Stanford, 2018

Finalist of the Mathematical Contest in Modeling (COMAP), 2016

National Scholarship, Peking University, 2016

Academic Service

Reviewer for Journals: Marketing Science; Management Science; Journal of Marketing Research; Operations Research; Manufacturing & Service Operations Management; Annals of Statistics; Production and Operations Management; Journal of the American Statistical Association: Theory & Methods; Journal of the Royal Statistical Society: Series B; Journal of Business & Economic Statistics; Journal of Artificial Intelligence Research; IEEE Transactions on Knowledge and Data Engineering

Reviewer for Conferences: Neural Information Processing Systems (NeurIPS, 2023); ACM Conference on Knowledge Discovery and Data Mining (KDD, 2021–2022); International Conference on Learning Representations (ICLR, 2021); International Conference on Machine Learning (ICML, 2020–2021); IEEE Intelligent Transportation Systems Conference (ITSC, 2020)

Session Chair at Conferences: ISMS Marketing Science Conference (2026); INFORMS Annual Meeting (2023–2026); Production and Operations Management Society-Hong Kong (POMS-HK, 2024–2025); Annual Conference of the Chinese Scholars Association for Management Science and Engineering (CSAMSE, 2023)

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