

# Ruihao Zhu

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Cornell SC Johnson College of Business  
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Academic	<b>Cornell University</b>	
Employment	SC Johnson College of Business & Nolan School of Hotel Administration Operations, Technology, and Information Management Area <b>Assistant Professor</b>	2022-now 2025-2026
	– <i>Grailer Faculty Fellow</i> , Center for Hospitality Research	
	<b>Purdue University</b>	
	Krannert School of Management Department of Supply Chain and Operations Management <b>Assistant Professor</b>	2021-2022
Education	<b>Massachusetts Institute of Technology</b> <i>Interdisciplinary Ph.D. in Controls and Statistics</i> , 2021	
	<b>Shanghai Jiao Tong University</b> <i>B.Eng. in Electrical and Computer Engineering</i> , 2015	
	<b>University of Michigan, Ann Arbor</b> <i>B.Eng. in Computer Science and Engineering</i> , 2015	
Research Interests	My research develops agents to inform decision-making in the digital economy, revenue management, and supply chain	
Awards	<i>Finalist</i> , Google DeepMind AI for Organizations Grand Challenge, 2025 <i>2nd Place</i> , Chelliah Sriskandarajah Early Career Research Accomplishments Award, 2025 <i>Finalist</i> , INFORMS Data Mining Society Best Theoretical Paper Award, 2024 <i>Finalist</i> , INFORMS Conference on Quality, Statistics, and Reliability Best Pa- per Competition, 2024 <i>Honorable Mention</i> , INFORMS George B. Dantzig Dissertation Award, 2022 <i>2<sup>nd</sup> Place</i> , INFORMS Innovative Applications in Analytics Award, 2022 <i>Finalist</i> , INFORMS Service Science Section Best Cluster Paper Award, 2021 <i>Honorable Mention</i> , INFORMS George E. Nicholson Student Paper Compe- tition, 2019 <i>Finalist</i> , POMS-JD.com Best Data-Driven Research Paper Competition, 2019	
Thesis	<b>Data-Driven Operations in Changing Environments</b> – <i>Honorable Mention</i> , INFORMS George B. Dantzig Dissertation Award, 2022	

**Risk-Aware Linear Bandits: Theory and Applications in Smart Order Routing**

J. Ji, R. Xu, and R. Zhu

*Operations Research* (Accepted)

– Preliminary version presented in ICAIF 2022 and INFORMS Workshop on Data Science 2022

**Learning to Price Supply Chain Contracts against a Learning Retailer**

X. Zhao, R. Zhu, and W. Haskell

*Management Science* 72(3):2168-2187 (2026) [Journal]

**Temporal Fairness in Learning and Earning: Price Protection Guarantee and Phase Transitions**

Q. Feng, R. Zhu, and S. Jasin

*Operations Research* 73(2):775-797 (2025) [Journal]

– Preliminary version presented in ACM EC 2023 and Market Innovation Workshop 2023 (oral presentation)

**Model-Free Non-Stationary RL: Near-Optimal Regret and Applications in Multi-Agent RL and Inventory Control**

W. Mao, K. Zhang, R. Zhu, D. Simchi-Levi, and T. Basar

*Management Science* 71(2):1564–1580 (2025) [Journal]

– Preliminary version presented in ICML 2021

**Calibrating Sales Forecast in a Pandemic Using Competitive Online Non-Parametric Regression**

D. Simchi-Levi, R. Sun, M. Wu, and R. Zhu

*Management Science* 70(10):6502–6518 (2024) [Journal]

– 2<sup>nd</sup> Place, INFORMS Innovative Applications in Analytics Award, 2022

– Finalist, INFORMS Service Science Section Best Cluster Paper Award, 2021

– Preliminary version presented in MSOM Supply Chain Management SIG Meeting 2021

**Non-Stationary Reinforcement Learning: The Blessing of (More) Optimism**

W. C. Cheung, D. Simchi-Levi, and R. Zhu

*Management Science* 69(10):5722–5739 (2023) [Journal]

– Preliminary version presented in ICML 2020

**Joint Patient Selection and Scheduling under No-Shows: Theory and Application in Proton Therapy**

S. Saghafian, N. Trichakis, R. Zhu, and H. Shih

*Production and Operations Management* 32(2):547–563 (2023) [Journal]

Working  
Papers

### **Hedging the Drift: Learning to Optimize under Non-Stationarity**

W. C. Cheung, D. Simchi-Levi, and R. Zhu

*Management Science* 68(3):1696–1713 (2022) [Journal]

– *Honorable Mention*, INFORMS George E. Nicholson Student Paper Competition, 2019

– *Finalist*, POMS-JD.com Best Data-Driven Research Paper Competition, 2019

– Preliminary version presented in AISTATS 2019 and MSOM Service Operations SIG Meeting 2019

### **Meta-Dynamic Pricing: Transfer Learning Across Experiments**

H. Bastani, D. Simchi-Levi, and R. Zhu

*Management Science* 68(3):1865–1881 (2022) [Journal]

– Preliminary version presented in INFORMS RM&P Conference Spotlitged Track 2019

### **Can LLM Chatbots Replace Flow-Driven NLP Chatbots in Customer Service?**

V. Gaur, B. Song, and R. Zhu

Major Revision, *Management Science*

### **PRINCIPRO: Data-Driven Algorithms for Joint Pricing and Inventory Control under Price Protection**

Q. Feng and R. Zhu

Major Revision, *Management Science*

– Preliminary version presented in WINE 2023

### **Sailing through the Dark: Provably Sample-Efficient Inventory Control**

H. Qin, D. Simchi-Levi, and R. Zhu

Major Revision, *Management Science*

### **Satisficing Regret Minimization in Bandits: Constant Rate and Light-Tailed Distribution**

Q. Feng, T. Ma, and R. Zhu

– *Finalist*, INFORMS Data Mining Society Best Theoretical Paper Award, 2024

– Preliminary version presented in ICLR 2025 and INFORMS Workshop on Data Science 2024

### **Safe Data Collection for Offline and Online Policy Learning**

R. Zhu and B. Kveton

– Preliminary version presented in AISTATS 2022, MIT 2021 Conference on Digital Experimentation (CODE@MIT), and INFORMS Workshop on Data Science 2022

Refereed  
Conference  
Papers

**Optimizing the Battery-Swapping Problem in Urban E-Bike Systems with Reinforcement Learning**

W. Li, Z. Li, X. Liu, R. Zhu, Z. Zheng, and F. Wu

*Proceedings of the 34th International Joint Conference on Artificial Intelligence (IJCAI 2025)*

**Satisficing Regret Minimization in Bandits**

Q. Feng, T. Ma, and R. Zhu

*Proceedings of the 13th International Conference on Learning Representations (ICLR 2025)*

**User Experience Design Professionals' Perceptions of Generative Artificial Intelligence**

J. Li, H. Cao, L. Lin, Y. Hou, R. Zhu, A. El Ali

*Proceedings of the 2024 CHI conference on Human Factors in Computing Systems (CHI 2024)*

**PRINCIPRO: Data-Driven Algorithms for Joint Pricing and Inventory Control under Price Protection**

Q. Feng and R. Zhu

*Proceedings of the 19th Conference on Web and Internet Economics (WINE 2023)*

**MERIT: A Merchant Incentive Ranking Model for Hotel Search & Ranking**

S. Quan, H. Tan, S. Liu, Z. Zheng, R. Zhu, L. Li, Q. Lu, and F. Wu

*Proceedings of the 32nd ACM International Conference on Information and Knowledge Management (CIKM 2023)*

**Temporal Fairness in Learning and Earning: Price Protection Guarantee and Phase Transitions**

Q. Feng, R. Zhu, and S. Jasin

*Proceedings of the 24th ACM Conference on Economics and Computation (EC 2023)*

**LINet: A Location and Intention-Aware Neural Network for Hotel Group Recommendation**

R. Zhu, D. Lv, Y. Yu, R. Zhu, Z. Zheng, K. Bu, Q. Lu, and F. Wu

*Proceedings of the ACM Web Conference (WWW 2023)*

**Risk-Aware Linear Bandits with Application in Smart Order Routing**

J. Ji, R. Xu, and R. Zhu

*Proceedings of the Third ACM International Conference on AI in Finance (ICAIF 2022)*

### **Safe Optimal Design with Applications in Off-Policy Learning**

R. Zhu and B. Kveton

*Proceedings of the 25<sup>th</sup> International Conference on Artificial Intelligence and Statistics (AISTATS 2022)*

### **Near-Optimal Model-Free Reinforcement Learning in Non-Stationary Episodic MDPs**

W. Mao, K. Zhang, R. Zhu, D. Simchi-Levi, and T. Basar

*Proceedings of the 38<sup>th</sup> International Conference on Machine Learning (ICML 2021)*

### **Reinforcement Learning for Non-Stationary Markov Decision Processes: The Blessing of (More) Optimism**

W. C. Cheung, D. Simchi-Levi, and R. Zhu

*Proceedings of the 37<sup>th</sup> International Conference on Machine Learning (ICML 2020)*

### **Learning to Optimize Under Non-Stationarity**

W. C. Cheung, D. Simchi-Levi, and R. Zhu

*Proceedings of the 22<sup>nd</sup> International Conference on Artificial Intelligence and Statistics (AISTATS 2019)*

### **Coresets for Differentially Private K-means Clustering and Applications to Privacy in Mobile Sensor Networks**

D. Feldman, C. Xiang, R. Zhu, and D. Rus

*Proceedings of the 26<sup>th</sup> ACM/IEEE International Conference on Information Processing in Sensor Networks (IPSN 2017)*

### **Threshold Bandits, With and Without Censored Feedback**

J. Abernethy, K. Amin, and R. Zhu

*Advances in Neural Information Processing Systems 29 (NIPS 2016)*

### **Differentially Private and Strategy-Proof Spectrum Auction with Approximate Revenue Maximization**

R. Zhu and K. G. Shin

*Proceedings of the 2015 IEEE International Conference on Computer Communications (INFOCOM 2015)*

### **Differentially Private Spectrum Auction Mechanism with Approximate Revenue Maximization**

R. Zhu, Z. Li, F. Wu, K. G. Shin, and G. Chen

*Proceedings of the 15<sup>th</sup> ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc 2014)*

### **STAMP: A Strategy-Proof Auction Mechanism for Spatially Reusable**

## Items

R. Zhu, F. Wu, and G. Chen

*Proceedings of the 2013 IEEE Global Communications Conference (GLOBECOM 2013)*

## SAFE: A Strategy-Proof Auction Mechanism for Multi-Radio, Multi-Channel Spectrum Allocation

R. Zhu, F. Wu, and G. Chen

*Proceedings of International Conference on Wireless Algorithms, Systems, and Applications (WASA 2013)*

## Industry Experience

### Amazon

*Research Intern, 2020*

### Google

*Research Intern, 2019*

## Teaching

### Cornell HADM 7030 Operations Management

*Co-Instructor, executive core class*

– 2025, Enrollment: 32, Rating: 4.24/5.0

### Cornell HADM 2021/3010 Service Operations Management

*Instructor, undergraduate core class*

– 2025, Enrollment: 68, Rating: 4.34/5.0

– 2024, Enrollment: 226, Rating: 4.26/5.0

– 2023, Enrollment: 147, Rating: 4.41/5.0

### Purdue MGMT 36100 Operations Management

*Instructor, undergraduate core class*

– 2021, Enrollment: 135, Rating: 4.5/5.0

### MIT 15.774 The Analytics of Operations Management

*Teaching Assistant, elective for MBA, Master of Business Analytics, Supply Chain Management, and Leaders for Global Operations*

– 2019, Enrollment: 61, Rating: 6.0/7.0

## Service

Associate Editor for *INFORMS Journal on Data Science* 2026-now

Area Chair for *ICML* 2026, *NeurIPS* 2025-26

Senior Program Committee for *ACM International Conference on AI in Finance (ICAIF)* 2022-now

Program Committee for *WINE* 2025

Program Committee for *INFORMS Data Science Workshop* 2024

Committee Member for *INFORMS George B. Dantzig Dissertation Award 2026*

Committee Member for *Data Analytics & Information Systems (DAIS) Best Student Paper Competition 2026*

Reviewer for *Management Science, Operations Research, Manufacturing & Service Operations Management, Mathematics of Operations Research, Production and Operations Management, Journal of Machine Learning Research (JMLR), Transactions on Machine Learning Research (TMLR), IEEE Journal on Selected Areas in Information Theory (JSAIT)*

Reviewer for *MSOM SIG Meetings 2020-22, 2026, International Conference on Machine Learning (ICML) 2020-21, Conference on Neural Information Processing Systems (NeurIPS) 2019-21, International Conference on Algorithmic Learning Theory (ALT) 2019*

Meritorious Service Awards for *Operations Research 2024*

Cornell SC Johnson College of Business OTIM PhD Admissions Committee 2023-24, 2026

Cornell SC Johnson College of Business Internal Ad Hoc Committee (IAHC) for Re-Appointment 2024

Coordinator of MIT Data Science Lab seminar series 2019-21