Ruijiu Mao, Ph.D.

Assistant Professor of Accounting and Business Analytics
Alberta School of Business, University of Alberta
ruijiu@ualberta.ca | 780-902-0783 | Website: sites.google.com/view/ruijiumao
Academic Profiles: Google Scholar | ORCID: 0000-0001-9941-0744
2-29B Business Building, Edmonton, Alberta, Canada, T6G 2R6

ACADEMIC APPOINTMENT

Alberta School of Business, University of Alberta 07/2025–Present
Assistant Professor of Accounting and Business Analytics

EDUCATION

National University of Singapore 01/2021–06/2025
Ph.D. in Operations and Analytics

Purdue University 08/2016–05/2020
M.E. in Industrial Engineering

Fudan University 09/2011–07/2015
B.S. in Mathematics and Applied Mathematics

RESEARCH AREAS

Methodologies: Data Analytics; Discrete Choice Analysis; Stochastic Modeling; Optimization

Applications: Data Center Operations; Revenue Management; Sustainable Operations; Supply Chain Management; Operations-Marketing Interface

RESEARCH IMPACT HIGHLIGHTS

- Winner of the 2025 INFORMS ENRE Best Publication Award in Natural Resources.
- Peer reviewer for *Manufacturing & Service Operations Management*, *Production and Operations Management*, *Omega*, *Annals of Operations Research*, *IISE Transactions*, *Health Care Management Science*, and *Computational Management Science*.
- Judge, 2026 INFORMS Service Science Best Student Paper Competition.
- Research and expertise featured by the University of Alberta and CTV News.

HONORS AND DISTINCTIONS

Winner, 2025 INFORMS ENRE Best Publication Award in Natural Resources 10/2025
For "From Curtailed Renewable Energy to Green Hydrogen: Infrastructure Planning for Hydrogen Fuel-Cell Vehicles."
Awarded by the INFORMS Energy, Natural Resources, and the Environment Section.

Teaching Excellence Award, NUS Business School 05/2023

Second Place, 2019 IEGSO Research Symposium Poster Session, Purdue Industrial Engineering 04/2019

PEER-REVIEWED JOURNAL ARTICLES

L. He, N. Ke, **R. Mao**, W. Qi, and H. Zhang. "From Curtailed Renewable Energy to Green Hydrogen: Infrastructure Planning for Hydrogen Fuel-Cell Vehicles." *Manufacturing & Service Operations Management, 26(5), 1750–1767.* 2024. [DOI]

R. Mao. "Optimizing Multimodal Deliveries with Synergistic Drone Network Design." *European Journal of Operational Research.* 2026. [DOI]

R. Mao and V. Aggarwal. "NPSCS: Non-Preemptive Stochastic Coflow Scheduling with Time-Indexed LP Relaxation." *IEEE Transactions on Network and Service Management.* 2021.

V. Aggarwal and **R. Mao**. "Preemptive Scheduling for Approximate Computing on Heterogeneous Machines: Tradeoff Between Weighted Accuracy and Makespan." *Information Processing Letters*. 2020.

B. Du, **R. Mao**, N. Kong, and D. Sun. "Distributed Data Fusion for On-Scene Biological Signal Sensing with a Multi-UAV System." *IEEE Transactions on Control of Network Systems*. 2020.

MANUSCRIPTS UNDER REVISION

R. Mao, S. Jia, and C. P. Teo. "Optimizing Size-Based Bundle Promotions: Balancing Customer Appeal and Product Costs." *Production and Operations Management*. Conditionally accepted. [SSRN]

R. Mao and X. Li. "Optimizing Product Pool Selection and Pricing for Size-Based Bundling Promotions." *Operations Research*. Under Major Revision. [SSRN]

RESEARCH IN PROGRESS

R. Mao, Q. Tang, W. Qi. "Renewable-Aware Data-Center Operations: Pricing, Task Replication, and Placement under Uncertainty." *Target: Manufacturing & Service Operations Management*. In preparation.

F. Chen, **R. Mao**, H. Fan. "Disruption-Aware Siting and Sizing of Electric-Vehicle Fast-Charging Stations Using Microscopic Traffic Simulation." *Transportation Research Board Annual Meeting*. Submitted, 2026.

PEER-REVIEWED CONFERENCE PROCEEDINGS

C. Feng and **R. Mao**. "Interpretable User Behavioral Analysis and Personalized Recommendation with Side Information." *Proceedings of the 2022 Winter Simulation Conference*. Singapore, December 11–14, 2022.

R. Mao, B. Du, D. Sun, and N. Kong. "Optimizing a UAV-Based Emergency Medical Service Network for Trauma Injury Patients." *Proceedings of the 15th IEEE International Conference on Automation Science and Engineering*. Vancouver, BC, Canada, August 22–26, 2019.

R. Mao, V. Aggarwal, and M. Chiang. "Stochastic Co-Flow Scheduling with Time-Indexed Constraints on Related Machines." *Proceedings of the 8th International Workshop on Big Data and Cloud Performance, Co-located with IEEE INFOCOM*. Honolulu, HI, USA, April 15–19, 2018.

PATENTS

Chinese Patent Application Publication CN109993619A: Extracting Missing Attributes of Products from Descriptive Images.

PROFESSIONAL SERVICE

Journal Reviewer

- *Manufacturing and Service Operations Management*
- *Production and Operations Management*
- *Omega*
- *Annals of Operations Research*
- *IISE Transactions*
- *Health Care Management Science*
- *Computational Management Science*

Competition Judge

- Judge, 2026 INFORMS Service Science Best Student Paper Competition.

Conference Service

- Session Chair, POMS-HK, January 2024
- Session Chair, Winter Simulation Conference, December 2022

Leadership

- President, Purdue Industrial Engineering Graduate Student Organization, 2019–2020

SELECTED MEDIA AND INSTITUTIONAL COVERAGE

University of Alberta, Alberta School of Business 2025
"Optimizing for People, Purpose and Progress." [Link]

University of Alberta, Alberta School of Business 2025
"From Wasted Power to Green Wheels." [Link]

Quoted Expert, CTV News 2026
"Return of Federal Electric Vehicle Rebate Welcome: Alberta Advocates." [Link]

RESEARCH FUNDING

Awarded: EFF-SAS Research Grant (CAD 5,000; 2026) and Institutional Start-up Research Support (CAD 60,000; 2025–2029), University of Alberta.

CONFERENCE PRESENTATIONS

Optimizing Product Pool Selection and Pricing for Size-Based Bundling Promotions. *CORS Annual Conference, June 8–10, 2026.*

Optimizing Multimodal Deliveries with Synergistic Drone Network Design. *POMS Annual Meeting, May 7–11, 2026.*

Optimizing Product Pool Selection and Pricing for Size-Based Bundling Promotions. *INFORMS Annual Meeting, October 20–23, 2024.*

From Curtailed Renewable Energy to Green Hydrogen: Infrastructure Planning for Hydrogen Fuel-Cell Vehicles. *POMS-HK, January 5–6, 2024.*

Flexible Operations Strategies for Drone Networks: An Application in Emergency Medical Service. *Analytics for X, December 8–9, 2023.*

Optimizing Size-Based Bundle Promotions. *INFORMS Annual Meeting, October 15–18, 2023.*

Additional Luggage Pricing Without Price Variation. *INFORMS Annual Meeting, October 16–19, 2022.*

Drone Network Design for Multimodal Delivery. *INFORMS Annual Meeting, October 16–19, 2022.*

Land-Air Collaborated Network for Parcel Delivery. *Analytics for X, June 30–July 2, 2021.*

Contract Design with Information Asymmetry in Emergency Stroke Care Systems. *INFORMS Annual Meeting, October 20–23, 2019.*

Optimizing a UAV-Based Emergency Medical Service Network for Trauma Injury Patients. *15th IEEE International Conference on Automation Science and Engineering, August 22–26, 2019.*

Optimizing a UAV-Based Emergency Medical Service Network for Trauma Injury Patients. *INFORMS Healthcare Conference, July 27–29, 2019.*

Stochastic Co-Flow Scheduling with Time-Indexed Constraints on Related Machines. *SIAM CSE Conference, Purdue University, April 15, 2018.*

INDUSTRY EXPERIENCE

JD.com, Algorithm Engineer 05/2020–02/2021
JD Cloud & AI
- JD Star Camp, Excellent Camper.
- JD Hackathon semi-finalist; project on assortment planning for "Book Mountains."

JD.com, Algorithm Engineer Intern 09/2019–05/2020
JD-Y, Supply Chain Innovation Division

JD.com, Algorithm Engineer Intern 06/2017–08/2017
JD-Y, Supply Chain Innovation Division