

Ruijiu Mao

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ACADEMIC APPOINTMENT

Alberta School of Business, University of Alberta <i>Assistant Professor of Accounting and Business Analytics</i>	07/2025—Present
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EDUCATION

National University of Singapore <i>Ph.D in Operations and Analytics</i>	01/2021—06/2025
Purdue University <i>M.E. in Industrial Engineering</i>	08/2016—05/2020
Fudan University <i>B.S. in Mathematics and Applied Mathematics</i>	09/2011—07/2015

RESEARCH INTERESTS

Methodologies: data analytics, discrete choice analysis, stochastic modeling, optimization
Applications: revenue management, operations-marketing interface, sustainability, supply chain management

PUBLICATION

L. He, N. Ke, **R. Mao**, W. Qi, H. Zhang, From Curtailed Renewable Energy to Green Hydrogen: Infrastructure Planning for Hydrogen Fuel-Cell Vehicles, *Manufacturing & Service Operations Management*, 2024 [[Link](#)]

WORKING PAPERS

R. Mao, S. Jia, CP Teo, Size-based Bundle Promotions: Pricing and Assortment Optimization [[Link](#)]
R. Mao, X. Li, Optimizing Product Pool Selection and Pricing for Size-Based Bundling Promotions [[Link](#)]
R. Mao, L. He, Drone Network Design for Multi-modal Delivery

EARLIER PUBLICATIONS

C. Feng, **R. Mao**, Interpretable User Behavioral Analysis and Personalized Recommendation with Side Information, *In Proceedings of the 2022 Winter Simulation Conference, Singapore, December 11-14, 2022*
R. Mao, 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, D. Sun, Distributed Data Fusion for On-Scene Biological Signal Sensing with a Multi-UAV System, *IEEE Transactions on Control of Network Systems*, 2020

- R. Mao**, B. Du, D. Sun, N. Kong, Optimizing a UAV-based Emergency Medical Service Network for Trauma Injury Patients, *In 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, *In Proceedings of the 8th International Workshop on Big Data and Cloud Performance (DCPerf'18), Co-located with the IEEE INFOCOM, Honolulu, HI, USA, April 15-19, 2018*

CONFERENCE PRESENTATIONS

- 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*

AWARDS AND HONORS

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|---|---------|
| Teaching Excellence Award, NUS Business School | 05/2023 |
| Second Place, 2019 IEGSO Research Symposium Poster Session, Purdue IE | 04/2019 |
| Excellent Students Awards, Beijing Municipal Education Commission | 05/2011 |

TEACHING EXPERIENCE

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| National University of Singapore, Instructor
<i>DAO1704 (Decision Analytics using Spreadsheets)</i> <ul style="list-style-type: none"> Undergraduate Core Module Class Size: 47 Evaluation: 4.6/5.0 (Rank 1 in the Semester) Teaching Excellence Award, NUS Business School | 01/2023—05/2023 |
| National University of Singapore, Teaching Assistant
<i>IE 3120 (Manufacturing Logistics)</i> <ul style="list-style-type: none"> Undergraduate Module, Conducting Tutorials Class Size: 10 Evaluation: 4.7/5.0 | 08/2021—05/2024 |
- LI5202 (Supply Chain Management Strategies & Case Studies)*

DBA5106 (*Foundation in Business Analytics*)

Purdue University, Teaching Assistant

01/2018—12/2018

CS373 (*Data Mining and Machine Learning*)

<https://www.cs.purdue.edu/homes/jhonorio/18fall-cs37300.html>

IE533 (*Industrial Applications of Statistics*)

<https://www.coursehero.com/file/30541364/>

INDUSTRY EXPERIENCE

JD.com, Algorithm Engineer

05/2020—02/2021

JD Cloud & AI,

- JD Star Camp, Excellent Camper
- JD HACKATHON (semi-finalist): 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)

- Patent (CN 109993619): Extracting Missing Attributes of Products from Descriptive Images

Deloitte Touche Tohmatsu CPA Ltd., Auditor (Intern)

07/2014—08/2014

SERVICES

Reviewer, Omega, Annuals of Operations Research and IEEE Transactions on Intelligent Transportation Systems

Session Chair, POMS-HK

01/2024

Session Chair, Winter Simulation Conference

12/2022

President, Purdue Industrial Engineering Graduate Student Organization

05/2019—02/2020

Volunteer, Boiler-up program, Purdue University

09/2016—05/2017

MISCELLANEA

Programming Languages: Python, SQL, Matlab

Programming Skills: Image Recognition, Web Crawling, Natural Language Processing, Data Visualization

Hobbies: Running, Traveling, Attending Concerts