

Yating Zhang

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RESEARCH INTERESTS

At the intersection of data-driven retail operations, consumer choice modeling, and global optimization, with an emphasis on developing exact solution methods for assortment planning under data-driven consumer choice behavior

EDUCATION

Shanghai Jiao Tong University Shanghai, China
Ph.D. in Management Science, Antai College of Economics and Management 2020 - 2026
Advisors: Prof. Huan Zheng, Prof. Taotao He

University of Toronto Toronto, Canada
Visiting Ph.D. student, Rotman School of Management 2023 - 2024
Host: Prof. Ningyuan Chen

Tongji University Shanghai, China
B.Sc. in Information Systems and Management, School of Economics and Management 2016 - 2020
Awarded Outstanding Graduate Honor

RESEARCH PAPERS

Assortment Optimization Under History-Dependent Utility [Link]

with Taotao He and Huan Zheng

Operations Research (Minor revision)

- Incorporate history-dependent choice behavior into a multi-period assortment planning
- Obtain a globally optimal assortment plan using perspective formulation, the McCormick envelope, and the Lovász extension
- A case study using catering service data demonstrates 17.8% revenue improvement

Strong Formulations for Logit-based Multi-Purchase Behavior

with Taotao He and Zhongqi Wu

Soon submitted to *Operations Research*

- Propose an exact MIP formulation leveraging recursive McCormick/odd-cycle/running-intersection inequalities and convexification techniques from fractional programming
- Obtain globally optimal assortments under single, mixed, and robust Logit-MPB choice models

Joint Ranking and Assortment Optimization under Order-Dependent Choice Model

with Taotao He and Huan Zheng

Work in progress, to be submitted to *Management Science*

- Integrate the order-dependent choice model into a multi-store assortment planning
- Obtain globally optimal product ranking and assortments via a compact, scalable MIP formulation based on facial-decomposition and bounds-free inequalities

Network Revenue Management Under Regime Switching Demand

with Ningyuan Chen and Huan Zheng

Work in progress

- Leverage the regime switching information to adjust re-solving frequency of online policies

Revisiting Random Utility Model under a Multilinear Optimization Lens

with Taotao He and Huan Zheng

Work in progress

- Characterize the relationship of binary choices of consumers with different preferences to obtain a tight formulation for ranking-based choice models

Data-Driven and People-Centric Operations: Research Opportunities in Retail Operations [Link]

with Yuanzheng Ma and Huan Zheng

Published at *Fundamental Research*, 2025

- A review paper on retail operations considering data-driven consumer and worker behavior

TEACHING ASSISTANT

Modeling and Optimization

Fall 2020, 2021, 2022

- Topic: Data analytics, modeling, and optimization tools for business decision-making
- Designed assignments, the final project, and a lecture on column generation
- Delivered a lecture on Python programming and Gurobi implementation

Economic Optimization Method

Spring 2021

- Topic: Fundamental optimization models and tools motivated by economic applications
- Evaluated assignments and provided support for Julia coding tasks

CONFERENCE PRESENTATIONS

Assortment Optimization Under History-Dependent Utility

- The POMS International Conference in China Jul. 2025
- The 15th POMS-HK International Conference Jan. 2025
- INFORMS Revenue Management and Pricing (RMP) Section Conference Jul. 2024
- INFORMS Annual Meeting, Arizona Oct. 2023
- The 15th International Annual Conference of the Chinese Scholars Association for Management Science and Engineering (CSAMSE) Jul. 2023

Strong Formulations for Logit-based Multi-Purchase Behavior

- INFORMS Annual Meeting, Atlanta (scheduled) Oct. 2025

SERVICE

Reviewer for Journal of Systems & Management

Coordinated one-to-one student-speaker meetings for Antai seminars

Spring 2023

FUNDINGS & PROJECTS

User Behavior and Algorithm Design in Online Transaction Platforms (Participant)

- Funded by the National Natural Science Foundation of China (No.72231003)

Menu Optimization and Inventory Planning, Sovell (a catering service company in China)

- Collaborated with Prof. Ying Rong and Prof. Huan Zheng
- Led responsibilities including demand forecasting, menu optimization, and code delivery

REFERENCES

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