Jiameng Lyu

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Education

Tsinghua University, Beijing, China — Aug. 2021 – Jun. 2025 (Expected)
Ph.D. Candidate in Operations Research *Yau Mathematical Science Center* **Advisor:** Prof. Yuan Zhou

Georgia Institute of Technology, Atlanta, USA — Jul. 2024 – Present
Visiting Student *School of Industrial and Systems Engineering (ISyE)* **Advisor:** Prof. Xin Chen

University of Science and Tchenology of China (USTC), Hefei, China — Aug. 2017 – Jul. 2021
B.S. in Statistics (Honor Degree)
Rank: 2 / 40 **Guo Moruo Schlorship** (the highest honor for undergraduates in USTC)

Research Interests

My research focuses on two important aspects of **data-driven decision-making** for **Operations Management**:

- Developing *flexibly applicable*, *computationally efficient*, and *provably optimal* data-driven decision-making frameworks that work for a wide range of problems.
- Designing *fairness-aware* data-driven decision-making methods within the context of OM scenarios.

For future research, I aim to:

- Advance *methodology* research in data-driven decision-making for OM and business analytics.
- Explore more *empirical* directions, e.g., integrating domain knowledge with modern AI in real business.

Research Works

Publications ($*$ refers to alphabetical order and $**$ refers to equal contribution)

[1] **Jiameng Lyu***, Jinxing Xie*, Shilin Yuan*, Yuan Zhou*. A Minibatch-SGD-Based Learning Meta-Policy for Inventory Systems with Myopic Optimal Policy. *Management Science* (forthcoming), 2024.

[2] Xi Chen*, **Jiameng Lyu***, Yining Wang*, Yuan Zhou*. Network Revenue Management with Demand Learning and Fair Resource-Consumption Balancing. *Production and Operations Management*, 33(2), 494-511, 2024.

[3] Qi Qi**, **Jiameng Lyu****, Kung-Sik Chan, Er-Wei Bai, Tianbao Yang. Stochastic Constrained DRO with a Complexity Independent of Sample Size. *Transactions on Machine Learning Research*, 2023.

Papers Under Revision or Review

[4] Xi Chen*, **Jiameng Lyu***, Xuan Zhang*, Yuan Zhou*. Fairness-aware Online Price Discrimination with Nonparametric Demand Models. Under major revision at *Operations Research*.

[5] Xin Chen*, **Jiameng Lyu***, Shilin Yuan*, Yuan Zhou*. Learning in Lost-Sales Inventory Systems with Stochastic Lead Times and Random Supplies. Under major revision at *Management Science*.

[6] **Jiameng Lyu***, Shilin Yuan*, Bingkun Zhou*, Yuan Zhou*. Closing the Gaps: Optimality of Sample Average Approximation for Data-Driven Newsvendor Problems. Under review at *Operations Research*.

Works in Progress

[7] Xin Chen*, **Jiameng Lyu***, Shilin Yuan*, Yuan Zhou*. Nonstationary Sample Average Approximation with Applications in Inventory Management.

Teaching Experiences

At Tsinghua University:

- Co-Instructor: Probability Tutorial Course for Yau College Student Mathematics Contest — Spring 2022
- Teaching Assistant: Mathematical Modelling (00420033) — Spring 2024

- Teaching Assistant: Advanced Numerical Analysis (60420024) Fall 2023
- Teaching Assistant: Machine Learning Theory (84760144) Spring 2023
- Teaching Assistant: Mathematical Foundations of Machine Learning (44760153) Spring 2022
- Teaching Assistant: Linear Algebra (10421324) Fall 2021

At University of Science and Technology of China:

- Teaching Assistant: Mathematical Analysis B2 (MATH1007) Spring 2021
- Teaching Assistant: Mathematical Analysis B1 (MATH1006) Fall 2020
- Teaching Assistant: Linear Algebra (001519) Spring 2020

Selected Awards

- National Scholarship (Top **1%**) Oct. 2023
- Yau Mathematical Sciences Center Outstanding Graduate Scholarship, First Prize (Top **5%**) Sept. 2023
- Honorary Rank in USTC (Top **5%**) Jun. 2021
- Outstanding Graduate in USTC (Top **10%**) Jun. 2021
- Outstanding Undergraduate Thesis Award in USTC (Top **5%**) Jun. 2021
- Guo Moruo Scholarship (Top **1%**) Apr. 2021

Professional Services

- **Reviewer for:** *Operations Research*, *Operations Research Letters*, *International Conference of Machine Learning (ICML 2022)*, *International Computing and Combinatorics Conference (COCOON 2022)*
- **Session Chair for:** *POMS-HK International Conference (2024)*

Invited Talks

- "A Minibatch-SGD-Based Learning Meta-Policy for Inventory Systems with Myopic Optimal Policy"
  - *Tsinghua University, Prof. Yong Liang's Group in School of Economics and Management, Apr. 2024*
  - *Chinese Scholars Association for Management Science and Engineering (CSAMSE 2024), Jul. 2024*
- "Learning in Lost-Sales Inventory Systems with Stochastic Lead Times and Random Supplies"
  - *POMS-HK International Conference (2024), Jan. 2024*
  - *Chinese Scholars Association for Management Science and Engineering (CSAMSE 2024), Jul. 2024*
  - *Purdue Operations Conference (2024), Aug. 2024*
- "Network Revenue Management with Demand Learning and Fair Resource-Consumption Balancing" *POMS-HK International Conference (2024)* Jan. 2024