

Guokai Li 李国凯

 www.guokaili.com |  guokai.li@mcgill.ca

 1001 Sherbrooke St W, Montreal, Quebec H3A 1G5, Canada

EMPLOYMENT

McGill University , Quebec, Canada	2026 - 2028 (expected)
<i>Postdoctoral Researcher</i>	
Advisors: Maxime Cohen , Murray Lei , Alys Liang	
Queen's University , Ontario, Canada	2025 - 2026
<i>Postdoctoral Fellow</i>	
Advisors: Stefanus Jasin , Murray Lei , Alys Liang	

EDUCATION

The Chinese University of Hong Kong, Shenzhen , Guangdong, China	2020 - 2025
<i>Ph.D. Student in Data Science</i> (Presidential Fellowship).	
Supervisors: Zizhuo Wang , Pin Gao .	
Thesis: Online Resource Allocation and Its Applications in Revenue Management Problems.	
The Hong Kong University of Science and Technology , Hong Kong SAR, China	2022 Fall
<i>Visiting Postgraduate Student.</i>	
Xi'an Jiaotong University , Shaanxi, China	2016 - 2020
<i>Bachelor in Industrial Engineering.</i>	
<u>Ranked 1st.</u>	
The University of Hong Kong , Hong Kong SAR, China	2019 Spring
<i>Exchange Student at IMSE Department.</i>	

RESEARCH INTERESTS

My research focuses on designing efficient and well-performing algorithms for dynamic resource allocation problems. Recently, I have been working on topics at the intersection of operations research (OR) and artificial intelligence (AI).

- **Methodologies:** online resource allocation, graph neural network, generative AI.
- **Topics:** revenue management & pricing, AI for operational problems, operations for AI systems.

RESEARCH PROJECTS

†: student coauthors.

- [1] **Guokai Li**, Ningyuan Chen, Guillermo Gallego, Pin Gao, and Steven Kou. Dealership or Marketplace with Fulfillment Services: A Dynamic Comparison, **Manufacturing & Service Operations Management**, 26(5): 1860-1877, 2024. [[M&SOM](#)] [[SSRN](#)]
- [2] **Guokai Li**, Pin Gao, and Zizhuo Wang. Optimal Emission Regulation under Market Uncertainty, **Naval Research Logistics**, 71(8): 1092-1112, 2024. [[NRL](#)] [[SSRN](#)]
- [3] **Guokai Li**, Pin Gao, and Zizhuo Wang. When to Push Ads: Optimal Mobile Ad Campaign Strategy under Markov Customer Dynamics, *forthcoming* at **Manufacturing & Service Operations Management**. [[M&SOM](#)] [[SSRN](#)]

- Preliminary version accepted by **WINE'24**: Proceedings of the 20th Conference on Web and Internet Economics.
 - Finalist, Best Student Paper Award, POMS-HK, 2024.
- [4] **Guokai Li**, Zizhuo Wang, and Jingwei Zhang. Infrequent Resolving Algorithm for Online Linear Programming, *accepted at Mathematics of Operations Research*. [[arXiv](#)]
- Preliminary version accepted by **WINE'24**: Proceedings of the 20th Conference on Web and Internet Economics.
 - Winner, Best Student Paper Award, Data Science and Decision Intelligence Community of Operations Research Society of China, 2024.
 - Accepted for presentation at MSOM 2025 main conference.
- [5] **Guokai Li**, Pin Gao, Stefanus Jasin, and Zizhuo Wang. From Small to Large: A Graph Convolutional Network Approach for Solving Assortment Optimization Problems, under review. [[arXiv](#)]
- [6] **Guokai Li**, Jinzhi Bu, Boxiao Chen, and Stefanus Jasin. Model Misspecification Loss in Inventory System with Correlated Demand, under review. [[SSRN](#)]
- [7] Liangyu Ding[†], Chenghan Wu[†], **Guokai Li**, and Zizhuo Wang. Self-Improving Neural Pruning: A Graph Neural-Guided Network Framework for Scalable Mixed Bundle Pricing, under review. [[arXiv](#)]
- [8] **Guokai Li**, Alys Liang, Mo Liu, Murray Lei, Stefanus Jasin, Fenghua Yang, and Preet Baxi. Asymptotically Optimal Sequential Testing with Heterogeneous LLMs, in progress. [[arXiv](#)]

TEACHING EXPERIENCE

MAT 3007, Optimization , CUHK-Shenzhen	2022 Spring
<i>Teaching Assistant</i> , Eval 5.91/6.00.	
Undergraduate course.	
CSC 4120, Design and Analysis of Algorithms , CUHK-Shenzhen	2021 Fall
<i>Leading Teaching Assistant</i> , Eval 5.86/6.00.	
Undergraduate course.	
STA 4001, Stochastic Processes , CUHK-Shenzhen	2021 Spring
<i>Teaching Assistant</i> , Eval 5.80/6.00.	
Undergraduate course.	
MFE 5130, Financial Derivatives , CUHK-Shenzhen	2020 Fall
<i>Teaching Assistant</i> .	
Core course for M.Sc. in Financial Engineering.	

PROFESSIONAL SERVICES

Ad-hoc Referees:

- Management Science
- Operations Research
- Manufacturing & Service Operations Management
- Production and Operations Management
- Operations Research Letters
- Decision Sciences

Session Chairs:

- 2025 MSOM Main Conference
- 2026 Annual POMS Conference
- 2026 CORS Conference
- 2026 INFORMS Annual Meeting (scheduled)

HONORS AND AWARDS

Ph.D. Presidential Fellowship, CUHK-Shenzhen	2020-2025
Best Student Paper, Data Science and Decision Intelligence Community of Operations Research Society of China	2024
Finalist, POMS-HK Best Student Paper Award	2024
Duan Yong Ping Outstanding Research Award, CUHK-Shenzhen	2024
Duan Yong Ping Travel Award, CUHK-Shenzhen	2024