

JUNYI DONG

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EDUCATION

- **City University of Hong Kong** September 2018 - October 2023
Doctor of Philosophy Hong Kong
 - College: Department of Management Sciences
 - Relevant Coursework: Introduction of Mathematical Statistics, Introduction to Probability Models, Foundations of Management Science, Stochastic Operations Research.
- **Beijing Normal University** September 2014 - July 2018
Bachelor of Science Beijing, China
 - College: School of Mathematical Sciences
 - Relevant Coursework: Mathematical Analysis, Probability Theory, Probability and Measure Theory, Functional Analysis.

WORK EXPERIENCE

- **Department of Decision Analytics and Operations, CityU** July 2026 - Present
Research Assistant Professor Hong Kong
 - Secured an Early Career Scheme (ECS) grant from the Hong Kong Research Grants Council; delivered assigned undergraduate and postgraduate courses; assisted in organizing departmental academic seminars and exchange activities; and independently authored high-quality research papers for top-tier journals.
- **Department of Industrial Engineering and Decision Analytics, HKUST** November 2024 - June 2026
Postdoctoral Researcher Hong Kong
 - Conducted revenue management research, co-authoring papers for top-tier journals; co-authored a successful GRF application; and assisted in supervising final year projects in partnership with a leading fashion brand, focusing on sales forecasting and revenue management research.
- **Leeds School of Business, CU Boulder** March 2024 - October 2024
Visiting Scholar Colorado, USA
 - Collaborated with faculty on strategy, entrepreneurship, and operations research; presented findings at consumer decision-making center seminars; engaged in mentoring and academic exchanges with PhD students on analytics topics; and assisted in organizing the 17th Annual Behavioral Operations Conference.
- **Department of Marketing, CityU** October 2023 - February 2024
Postdoctoral Researcher Hong Kong
 - Co-authored research papers on marketing strategies and analytics for high-quality journals; partnered with mainland Chinese retailers on field tests to improve operational efficiency; presented at international conferences and assisted in organizational tasks.

RESEARCH PAPER

- **Personalized Promotion in Storable Goods Markets: A Structured Reinforcement Learning Approach**
Under Second-Round Review at Marketing Science (R & R)
 - Proposed a novel structured reinforcement learning method that addresses real-world challenges (e.g., limited training data and consumer inventory estimation errors), and demonstrated through field experiments with online retailers that it boosts consumer purchasing motivation while reducing promotional expenditures.
- **Joint Dynamic Channel Management and Pricing**
Under Second-Round Review at Manufacturing & Service Operations Management (Major Revision) 
 - Developed a dynamic programming model for joint channel management and pricing with structural analysis for optimal policies, designed an efficient approximation algorithm for channel selection with proven theoretical performance bounds, and validated via numerical experiments the revenue benefits of joint channel management and pricing and the algorithm's effectiveness.

- **Data-Driven Dynamic Pricing for Perishable Products with Knowledge Transfer**

Under First-Round Review at Operations Research



- Developed a novel transfer offline reinforcement learning framework for dynamic pricing of multiple perishable products in data-limited environments, established its theoretical performance bound under mild assumptions, and demonstrated effectiveness and robustness via numerical experiments using real-world hotel booking data.

- **Dynamic Group Seating Management with Minimum Spacing Constraints**

Under Second-Round Review at The European Journal of Operational Research (Major Revision)

- Studied dynamic seating management with minimum spacing constraints; formulated a stochastic planning model and developed a plan-based control policy using Benders decomposition, which consistently outperforms benchmarks and reveals that spacing-induced utilization loss depends on demand intensity, composition, group size, and layout — offering practical insights for venues.

- **Pattern-Based Control for Dynamic Stochastic Multi-Knapsack Problems with Multiple Item Types**

Under first-round review at Computers & Operations Research



- Developed a pattern-based capacity control framework for the dynamic stochastic multi-knapsack problem, proposing two policies (PB-BPC and PB-DPC) with asymptotic optimality and a constant revenue loss bound; numerical experiments show up to 20% improvement over baselines, providing a near-optimal solution for large-scale dynamic packing systems.

- **Joint Dynamic Pricing and Free Upgrades for Multiple Perishable Products**

Under first-round Review at Production and Operations Management



- Developed a framework for joint optimization of dynamic pricing and planned upgrading for vertically differentiated perishable products, showing that upgrading increases revenue only when base utility is positive and only for the lowest-quality product; derived fluid approximations, established submodularity, and designed fully polynomial-time approximation algorithms with performance guarantees.

SKILLS

- **Programming Languages:** Python (Advanced), R (Intermediate), MATLAB (Intermediate)
- **Mathematical & Statistical Techniques:** Linear Programming, Integer Programming, Convex Optimization, Regression Analysis, Bayesian Statistics
- **Data Science & Machine Learning:** K-Means Clustering, Q-Learning, Proximal Policy Optimization, Support Vector Machines, Time Series Analysis
- **Operations Management:** Customer Segmentation, Demand Forecasting, Inventory Optimization, Revenue Maximization
- **Research Skills:** Data Analysis, Experimental Design, Hypothesis Testing, Literature Review, Statistical Modeling

TEACHING EXPERIENCE

- **Part-Time Research Assistant**

September 2021 - July 2023

Department of Management Sciences, CityU

- MS3123 - Workshop on Global Operations and Supply Chain Management Practices: Assisted instructor in course delivery, helped students understand content, and supported completion of classroom simulation exercises.

- **Teaching Assistant**

September 2018 - June 2021

College of Business, CityU

- CB2200 - Business Statistics (2018 - 2020): Graded homework assignments and assisted students with problem-solving exercises each semester.
- GE2262 - Business Statistics (2020 - 2021): Delivered tutorial sessions for three sections, explained homework assignments weekly, and provided academic support to students.

CONFERENCE EXPERIENCE

- **Session Chair**
POMS-HK 2025
January 2025
Hong Kong
- **Presenter**
33rd Annual POMS-Conference
May 2023
Orlando, USA
- **Presenter**
31st Annual POMS-Conference
April 2021
Online

ADDITIONAL INFORMATION

Languages: Mandarin (Proficiency level), English (Advanced level), Cantonese (Elementary level)