

Benedict Jun Ma

MIT Center for Transportation and Logistics (CTL)

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EMPLOYMENT

Massachusetts Institute of Technology

Postdoctoral Associate

Affiliated with MIT CTL & MIT SCM

Cambridge, United States

Jul 2024 – Present

EDUCATION

The University of Hong Kong

PhD in Industrial Engineering

Supervisors: Prof. Yong-Hong Kuo & Prof. George Q. Huang

Hong Kong

Sep 2020 – Jun 2024

Northeast Forestry University

BEng in Control Engineering

Awarded China National Scholarship twice (GPA: 93.5, 1/64)

Harbin, China

Sep 2016 – Jun 2020

ACADEMIC EXPERIENCE

Mines Paris, PSL University

Visiting Doctoral Student in Center for Management Science

Supervised by Prof. Shenle Pan & Prof. Eric Ballot

Paris, France

Aug – Nov 2023

Rotterdam School of Management, Erasmus University

Visiting Researcher in Technology and Operations Management

Invited by Prof. René de Koster

Rotterdam, Netherlands

Oct 2023

NHH Norwegian School of Economics

Doctoral Student in Course BEA522 on Rural Logistics

Supported by Research Council of Norway

Bergen, Norway

Jul – Aug 2023

Hong Kong University of Science and Technology

Visiting Internship Student in Electronic and Computer Engineering

Supervised by Prof. Weichuan Yu

Hong Kong

Jun – Aug 2019

RESEARCH INTERESTS

- Warehouse Operations, Technology and Operations Management
- Human-AI Teaming, Data-Driven Causal Inference

PROJECT EXPERIENCE

Maersk-Pactum: Buyer-Supplier Relationships with AI

MIT Digital Supply Chain Transformation Lab

Chief Researcher

By analyzing negotiation data from Maersk, this project examines the mediation effect of human-AI teaming capabilities in buyer-supplier relationships and the performance of collective intelligence.

Capstone Projects at MIT CTL

MIT Supply Chain Management Master's Program

Co-Advisor

- *GE Vernova: Cross-Portfolio Strategic Supplier Consolidation*
- *Johnson & Johnson: Negotiation Buddy – Help procurement achieve more with every deal*
- *Niagara Bottling: Data-driven demand forecasting strategy*

Supply Chain Challenge at MIT Global SCALE Network

New Balance: Optimal Blend of Loading at Factory Level (2025)

Mentor

The team that I mentored won 1st place among all students in the MIT Global SCALE Network, including CTL (US), ZLC (Spain), LCL (Luxembourg), NISCI (China), LBORO (UK), and CLI (Colombia).

SynchroHub: Cyber-Physical Internet for Synchronizing Cross-Border Logistics Hubs

Theme-based Research Scheme, T32-707/22-N, RGC, Hong Kong (HKD 42.6M)

Researcher

The vision of Cyber-Physical Internet (CPI) is to send and receive goods just like sending and receiving messages within chat groups using instant messaging platforms.

PUBLICATIONS (SELECTED)

* denotes the corresponding author. A more complete list of publications can be found [here](#).

Peer-Reviewed Journal Articles

1. **BJ Ma**, MJ Saenz. (2025). The Human-Robot Duet: AI-Driven Warehouses. *MIT Sloan Management Review*, in press. (FT50, ABDC: A)
2. **BJ Ma**, S Pan, B Zou, YH Kuo*, GQ Huang. (2024). Operating Policies for Robotic Cellular Warehousing Systems. *Transportation Research Part E*, 194, 103875. (ABDC: A⁺)
3. **BJ Ma**, YH Kuo, Y Jiang, GQ Huang*. (2023). RubikCell: Toward Robotic Cellular Warehousing Systems for E-Commerce Logistics. *IEEE Transactions on Engineering Management*, 71, 9270–9285. (ABDC: A)
4. **BJ Ma**, SS Liu*, GQ Huang, CT Ng. (2025). How does consumer quality preference impact blockchain adoption in supply chains? *Electronic Markets*, 35, 17. (ABDC: A)
5. **BJ Ma**, Y Zhang*, S Liu, Y Jiang, Y He, K Yan. (2022). Operational strategies for IoT-enabled Brick-and-Mortar retailers in a competitive market. *Computers & Industrial Engineering*, 173, 108665. (ABDC: A)
6. **BJ Ma**, JLJ Pereira, D Oliva, S Liu, YH Kuo*. (2023). Manta ray foraging optimizer-based image segmentation with a two-strategy enhancement. *Knowledge-Based Systems*, 262, 110247. (ABDC: A)
7. **BJ Ma***, S Liu, AA Heidari. (2022). Multi-strategy ensemble binary hunger games search for feature selection. *Knowledge-Based Systems*, 248, 108787. (ABDC: A)
8. J Wang, **BJ Ma**, Y Yang, CH Cheng, YH Kuo*. (2025). Group buying with consumer disappointment at failed deals. *Transportation Research Part E*, 194, 103903. (ABDC: A⁺)
9. TZ Xu, SS Liu, **BJ Ma**, AKY Ng*. (2023). Impacts of advertising formation on adopting alternative fuel vehicles in a competitive market. *Transportation Research Part D*, 118, 103673. (ABDC: A)
10. SS Liu, G Hua*, **BJ Ma**, TCE Cheng. (2023). Competition between green and non-green products in the blockchain era. *International Journal of Production Economics*, 264, 108970. (ABDC: A)
11. Z Wang, X Xu, Y Liu*, **BJ Ma**, C Yang. (2025). Digital twin-based spatiotemporal global reconstruction for industrial temperature field: A case study of the snap curing oven. *International Journal of Production Research*, Forthcoming. (ABDC: A)
12. Y Jiang, M Li, **BJ Ma**, RY Zhong, GQ Huang*. (2024). Data-driven out-of-order model for synchronized planning, scheduling, and execution in modular construction fit-out management. *Computer-Aided Civil and Infrastructure Engineering*, 39(16), 2457–2480. (JCR Q1)
13. Y Liu, K Huang*, **BJ Ma**, K Wei, Y Li, C Yang, W Gui. (2024). Quality-related fault detection for dynamic process based on quality-driven long short-term memory network and autoencoder. *Neural Networks*, 181, 106819. (JCR Q1)
14. R Bao, Y Zhang, **BJ Ma**, Z Zhang, Z He*. (2022). An artificial neural network for lightning prediction based on atmospheric electric field observations. *Remote Sensing*, 14(17), 4131. (JCR Q1)

Peer-Reviewed Chapters in Books

1. **BJ Ma***. Hybrid adaptive moth-flame optimizer and opposition-based learning for training multilayer perceptions. (2022). In: Integrating Meta-Heuristics and Machine Learning for Real-World Optimization Problems, pp. 273–319. *Studies in Computational Intelligence*, vol 1038. Springer, Cham.

WORKING PAPERS

1. **BJ Ma**, GQ Huang, J Wang, YH Kuo*. “Robotic Order Picking in Cellular Warehousing based on a Time-Space-State Network” *International Journal of Production Research*, under review. (ABDC: A)
2. SS Liu, **BJ Ma***, W Zhang, TCE Cheng, X Li, CT Ng. “Eliminating information asymmetry in supply chains: Blockchain-driven or not” *Transportation Research Part E*, under 3rd review. (ABDC: A⁺)
3. J Wang, **BJ Ma***, YH Kuo, MJ Saenz. “Service Outsourcing: The Dilemma of Third-Party Service Providers” *Transportation Research Part E*, under 2nd review. (ABDC: A⁺)
4. SS Liu, **BJ Ma***, TCE Cheng, I Jackson. “Blockchain adoption for reducing consumer uncertainty: A game analysis under different market structures” *IEEE Transactions on Engineering Management*, major revision. (ABDC: A)
5. **BJ Ma**, MJ Saenz, E Revilla. “Human-AI collaboration in a buyer-supplier relationship”, working.
6. **BJ Ma***, BP Zou, R de Koster. “Operational Policies in Hybrid Robotic Order Picking Systems”, working.

PATENTS

An Intelligent Warehouse Management System with Methods (No. 202210212235.1)	In process
A plant factory based on Fresnel lens and ultrasonic atomization (No. CN208211121U)	Authorized

TEACHING

Instructor	Massachusetts Institute of Technology
SCM.250 Analytics for Supply Chain Management*	Fall 2024
SCM.800 Capstone Project in SCM*	Fall 2024

**The courses are part of MIT SCM Master's Program (No.1 QS ranking globally), where I instructed "Foundations of Statistics", including Statistical Analysis and Statistical Inference, with hands-on learning in Python.*

Teaching Assistant	The University of Hong Kong
IMSE4135 Systems Integration (UG) [rating: 80.0/100]	Full Year 2023
IMSE3107 Systems Modeling and Simulation (UG) [rating: 81.8/100]	Spring 2023
IMSE7221 Warehousing and City Logistics (PG) [rating: 94.2/100]	Fall 2022
IMSE7902 Project Management (PG) [rating: 91.7/100]	Fall 2022
IMSE7015 Engineering Economics and Finance (PG) [rating: 86.4/100]	Fall 2021

CONFERENCE PRESENTATIONS

The Human-Robot Duet: AI-Driven Warehouses	
The 2024 INFORMS Annual Meeting, Seattle, USA	Oct 2024
Operating Policies for Robotic Cellular Warehousing Systems	
The 14th POMS-HK International Conference, Hong Kong	Jan 2024
Robotic Order Picking in Cellular Warehousing based on a Time-Space-State Network	
The 27th Hong Kong Society for Transportation Studies (HKSTS) Conference, Hong Kong	Dec 2023
RubikCell: Towards Robotic Cellular Warehousing Systems for E-commerce Logistics	
The 50th Computers and Industrial Engineering (CIE) Conference, Sharjah-Dubai, UAE	Oct 2023
Dedicated or Shared: How do Third-Party E-commerce Warehouses Choose?	
The 33rd Annual POMS Conference, Orlando, USA	May 2023

INVITED TALKS

Robotic Order Picking in Cellular Warehousing based on a Time-Space-State Network	
Center for Transportation & Logistics, Massachusetts Institute of Technology (MIT)	Feb 2024
Outsourced Order Fulfillment in E-commerce: Warehousing Mode and Contract Choice	
Business School, Southern University of Science and Technology (SUSTech)	Dec 2023
Operations and Management in Robotic Cellular Warehousing Systems	
Business School, Sichuan University (SCU)	Nov 2023

HONOR & AWARDS

Postgraduate Scholarship in HKU	2020 – 2024
China National Scholarship	2017 & 2018 (Twice)
2018 International Mathematical Contest in Modeling (MCM)	Meritorious Winner

PROFESSIONAL SERVICES

Associate Editor for Journals
IECE Transactions on Swarm and Evolutionary Learning (2025 – Present)

Reviewer for Journals

Applied Intelligence	Archives of Computational Methods in Engineering
Artificial Intelligent Review	Computers & Industrial Engineering
Evolving Systems	Expert Systems with Applications
IEEE Access	IEEE Transaction on Engineering Management
IEEE Transactions on Network Science and Engineering	IEEE Transactions on SMC: Systems
Information Fusion	International Journal of Production Research
Journal of Big Data	Journal of Bionic Engineering
Journal of Supercomputing	Knowledge-Based Systems
Neural Computing and Applications	PLOS One
Scientific Reports	Soft Computing
Transportation Research Part E	Transportation Science

Reviewer for Conferences

IEEE International Conference on Robotics and Automation (ICRA 2022)
18th IFAC Symposium on Information Control Problems in Manufacturing

PC Member for Conferences

IEEE International Symposium on Computer-Based Medical Systems (CBMS 2024, 2025)

MEMBERSHIP

- Institute of Electrical and Electronics Engineers (IEEE)
- Institute of Industrial and Systems Engineers (IISE)
- Production and Operations Management Society (POMS)
- Institute for Operations Research and the Management Sciences (INFORMS)
- Operational Research Society of Hong Kong (ORSHK)
- International Federation of Operational Research Societies (IFORS)

REFEREES

- **Prof. Maria Jesus Saenz**
Director of MIT Digital Supply Chain Transformation Lab
Center for Transportation and Logistics
Massachusetts Institute of Technology, United States
Email: mjsaenz@mit.edu
- **Prof. Yong-Hong Kuo**
Associate Professor at Data and Systems Engineering
The University of Hong Kong, Hong Kong
Email: yhkueo@hku.hk
- **Prof. George Q. Huang**
Chair Professor of Smart Manufacturing
Department of Industrial and Systems Engineering
The Hong Kong Polytechnic University, Hong Kong
Email: gq.huang@polyu.edu.hk
- **Prof. René de Koster**
Professor of Logistics and Operations Management
Department of Technology and Operations Management, Rotterdam School of Management
Erasmus University, Rotterdam, Netherlands
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- **Prof. Shenle Pan**
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- **Prof. Eric Ballot**
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