

WEILIANG LIU

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ACADEMIC EMPLOYMENT

University of Chicago, Booth School of Business

2024 – Present

Postdoctoral Principal Researcher

Supervisor: Amy R. Ward

EDUCATION

National University of Singapore

2020 – 2024

Ph.D. in Industrial Systems Engineering & Management

Advisors: Loon Ching Tang and Zhisheng Ye

Shanghai Jiao Tong University

2016 – 2020

B.E. in Industrial Engineering & Management

Upper-Level GPA: 90.69/100 (Ranked 2/52)

RESEARCH INTERESTS

Optimal design and operations of modern service systems, queuing control, data-driven decision making

Cardiac arrest emergency response, voluntary/on-demand workforce management, online matching, drone delivery

PUBLICATIONS

[1] *Expanding Service Capabilities Through an On-Demand Workforce*

Sun, X. & Liu, W.

Forthcoming at **Operations Research** (2023)

[2] *Energy-Aware and Delay-Sensitive Management of a Drone Delivery System*

Liu, W. & Sun, X.

Manufacturing & Service Operations Management (2022) Vol. 24, No. 3, pp. 1294–1310

[3] *Modeling and Optimization for Emergency Medical Services Network*

Liu, R., Liu, W., Liu, Y., Pan, E. & Xie, X.

IEEE Transactions on Automation Science and Engineering (2021) Vol. 19, Issue 4, pp. 3520 - 3535

WORKING PAPERS

[0] *Matching Impatient and Heterogeneous Demand and Supply while Learning*

In preparation with Amy R. Ward and Xun Zhang

[1] *Community Responder Crowdsourcing for Time-Critical Emergencies*

Liu, W., Sun, Q., Tang, L. & Ye, Z.

Under review at **Management Science**

[2] *Robust Data-Driven Design of a Smart Cardiac Arrest Response System*

Liu, W., Sun, Q., Tang, L. & Ye, Z.

Major revision at **Production & Operations Management**

First Place, INFORMS Society on Location Analysis (SOLA) Best Student Paper Competition, 2023

[3] *Location-Allocation of Emergency Service Systems in Light Traffic: Application to Lift-Trap Rescue*

Wang, X., Liu, W., Tang, L. & Ye, Z.

Reject and resubmit at **Management Science**

TEACHING EXPERIENCE

National University of Singapore

IE4213/EE4802: Learning from Data (Undergraduate, 60+ students)

Springs of 2021, 2022, 2023

IE5005: Data Analytics for Industrial Engineers (Master, 230+ students)

Falls of 2021, 2022

SELECTED AWARDS

First Place, INFORMS Society on Location Analysis (SOLA) Best Student Paper Competition

2023

Chinese Government Award for Outstanding Students Abroad (6,000 USD)

2021

President's Graduate Fellowship

2020 – 2024

Hong Yi Scholarship (3,500 USD)

2019

Overseas Research Excellence Scholarship (1,000 USD)

2019

TALKS

Community Responder Crowdsourcing for Time-Critical Medical Emergencies

INFORMS 2024 Annual Meeting, Seattle, USA

October 2024 (Scheduled)

Matching Impatient and Heterogeneous Demand and Supply while Learning

TTIC Summer Workshop on Data-Driven Decision Processes, Chicago, USA

August 2024 (Scheduled)

Reinforcement Learning for Stochastic Networks, Toulouse, France

June 2024

Expanding Service Capabilities Through an On-Demand Workforce

INFORMS 2023 Annual Meeting, Phoenix, USA

October 2023

Robust Data-Driven Design of a Smart Cardiac Arrest Response System

CSAMSE 2023 Annual Meeting (Session Chair), Shenzhen, China

July 2023

POMS 2023 Annual Meeting, Orlando, USA

May 2023

RESEARCH VISITS

University of Toronto

Dept. of Mechanical & Industrial Engineering

Host Supervisor: Timothy C. Y. Chan

August - December, 2023

University of Florida

Dept. of Industrial & Systems Engineering

Host Supervisor: Xu Sun

June - September, 2019

COMPUTER SKILLS

Programming Language

C++, Python

Software

Gurobi, MATLAB, LaTeX, Mathematica

PERSONAL

Languages

Cantonese (native), Mandarin (native), English (fluent)

Interests

Ultimate frisbee, traveling