

# WEILIANG LIU

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## ACADEMIC EMPLOYMENT

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**University of Chicago, Booth School of Business**

2024 – Present

Postdoctoral Principal Researcher

Supervisor: Amy R. Ward

## EDUCATION

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**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

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

Emergency medical response for cardiac arrest, voluntary and on-demand workforce management, online matching

## PUBLICATIONS

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[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

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[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

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### 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

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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

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### 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

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### University of Toronto

August - December, 2023

Dept. of Mechanical & Industrial Engineering

Host Supervisor: Timothy C. Y. Chan

### University of Florida

June - September, 2019

Dept. of Industrial & Systems Engineering

Host Supervisor: Xu Sun

## COMPUTER SKILLS

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### Programming Language

C++, Python

### Software

Gurobi, MATLAB, LaTeX, Mathematica

## PERSONAL

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### Languages

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

### Interests

Ultimate frisbee, traveling