

XIAOQUAN GAO

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EMPLOYMENT

Singapore Management University Singapore
Lee Kong Chian School of Business (LKCSB)
Assistant Professor of Operations Management Jan. 2025 - Present

EDUCATION

Purdue University West Lafayette, IN, USA
Ph.D. in Industrial Engineering GPA: 4.0/4.0
Aug. 2019 – Dec. 2024
Advisors: Nan Kong, Pengyi Shi, Paul Griffin

Peking University Beijing, China
B.S. in Theoretical and Applied Mechanics GPA: 3.68/4.0
Sep. 2015 – July. 2019
Advisor: Jie Song

RESEARCH INTERESTS

- **Methodology:** Data analytics, stochastic modeling, reinforcement learning
- **Application:** Data-driven socially responsible operations, focusing on healthcare and criminal justice

WORKING PAPERS AND WORK IN PROGRESS

- **Xiaoquan Gao**, Pengyi Shi, and Nan Kong. Stopping the Revolving Door: MDP-Based Decision Support for Community Corrections Placement. Major Revision at *Operations Research*.
 - **Winner**, Decision Analysis Society Student Paper Award, INFORMS (2023)
 - **First place**, Service Science IBM Best Student Paper Award, INFORMS (2023)
 - **First place**, Outstanding Innovation in Service Systems Engineering Award, IISE (2023)
- **Xiaoquan Gao**, Pengyi Shi. A Two-Step Approach to Correctional Facility Placement: Practical Value And Asymptotic Optimality. *Work in Progress*.
- Tri Quang Vo, **Xiaoquan Gao**, Pengyi Shi. Bridging Prediction and Decision in Jail Diversion: The Power of Interpretability. *Work in Progress*.

JOURNAL PUBLICATIONS

- **Xiaoquan Gao**, Nan Kong, and Paul Griffin. "Shortening Emergency Medical Response Time With Joint Operations of UAVs and Ambulances." *Manufacturing & Service Operations Management* 26.2 (2024): 447-464.
- **Xiaoquan Gao**, Sabriya Alam, Pengyi Shi, Franklin Dexter, and Nan Kong. "Interpretable Machine Learning Models to Predict Hospital Patient Readmission." *BMC Medical Informatics and Decision Making* 23.1 (2023): 1-11.
- **Xiaoquan Gao**, Jianpei Wen, and Jie Song. "Capacity Allocation and Revenue Sharing in Healthcare Alliances." *Flexible Services and Manufacturing Journal* 32.4 (2020): 829-851.

SELECTED AWARDS AND HONORS

Gayle and Frank Johnston Scholarship, Regenstrief Center for Healthcare Engineering	2024
Winner, Decision Analysis Society Student Paper Award, INFORMS	2023
First place, Service Science IBM Best Student Paper Award, INFORMS	2023
First place, Outstanding Innovation in Service Systems Engineering Award, IISE	2023
Purdue Graduate Student Government Travel Grant, Purdue University	2023
Bilsland Dissertation Fellowship, Department of Industrial Engineering, Purdue University	2023
Future Faculty Fellow, IISE	2022
A. H. Ismail Interdisciplinary Program Doctoral Research Travel Award, Purdue University	2022

REFEREED CONFERENCE PROCEEDINGS

- Nan Kong and Juan C. Paz and **Xiaoquan Gao**. "EMS operations management: simulation, optimization, and new service models" *2022 Winter Simulation Conference (WSC)*. IEEE, 2022.
- **Xiaoquan Gao**, Nan Kong, and Paul M. Griffin. "Dynamic optimization of drone dispatch for substance overdose rescue." *2020 Winter Simulation Conference (WSC)*. IEEE, 2020.
- **Xiaoquan Gao**, Jianpei Wen, and Jie Song. "Simulation study of revenue sharing in healthcare alliances." *2018 winter simulation conference (WSC)*. IEEE, 2018.

TEACHING AND RESEARCH MENTORING

- **Co-instructor: Health Care Data Science**, Fall 2023, Purdue University
 - Enrollment: 48 undergraduate students in College of Engineering
 - Delivered three lectures and two recitation sessions on data preprocessing
 - Designed course syllabus, and prepared course materials and homework
- **Mentored** a Purdue Aeronautics and Astronautics Engineering master student (Griffin Carter, currently a PhD student at Purdue): developed a user interface to visualize occupancy trend and crime rate forecasting and worked on a paper together
- **Mentored** a Purdue Electrical and Computer Engineering undergraduate student (Sabriya Alam, currently a PhD student at UC Berkeley): built interpretable machine learning models for hospital readmission prediction and published a paper together

CONFERENCE PRESENTATIONS

1. "Breaking the Vicious Cycle: Community Corrections Placement Support with an MDP Approach"
 - INFORMS Annual Meeting, Seattle, WA, 2024
 - Georgia Tech ISyE Junior Researcher Workshop, Atlanta, GA, 2024
 - INFORMS Annual Meeting, Phoenix, AZ, 2023
 - INFORMS Healthcare Conference, Toronto, ON Canada, 2023
 - POMS Annual Meeting, Orlando, FL, 2023
 - IISE Annual Conference, New Orleans, LA, 2023
 - INFORMS Annual Meeting, Indianapolis, IN, 2022
 - M&SOM Annual Meeting, Munich, Germany, 2022
 - POMS Annual Meeting, Virtual, 2022
2. "Shortening Emergency Medical Response Time with Joint Operations of UAVs with Ambulances"
 - INFORMS Annual Meeting, Seattle, WA, 2024
 - INFORMS Annual Meeting, Phoenix, AZ, 2023
 - INFORMS Healthcare Conference, Toronto, ON Canada, 2023

- POMS Annual Meeting, Virtual, 2022
- INFORMS Annual Meeting, Virtual, 2021
- Winter Simulation Conference, Virtual, 2020
- INFORMS Annual Meeting, Virtual, 2020

3. "Capacity Allocation and Revenue Sharing in Healthcare Alliances"

- Winter Simulation Conference, Gothenburg, Sweden, 2018
- International Conference of the Chinese Scholars Association for Management Science and Engineering (CSAMSE), Ningbo, China, 2018

SERVICES

Session Chair: WSC 2020; POMS 2022 (Co-chair), 2023 (Co-chair); INFORMS Healthcare 2023 (Co-chair), INFORMS Annual Meeting 2024

Reviewer: Management Science, Manufacturing & Service Operations Management, Production and Operations Management, MSOM Healthcare SIG 2024, Health Care Management Science, IEEE Robotics and Automation Letters, IIE Transactions on Healthcare Systems Engineering, Flexible Services and Manufacturing Journal

Volunteer: Student monitor for INFORMS Healthcare Conference 2021