XIAOQUAN GAO

Phone: (+65) 68280963 | Email: xiaoquangao@smu.edu.sg | Website: xiaoquanhi.github.io/web/

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 and control, 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.

Invited Seminars

College of Engineering (Industrial Engineering & Management Department), Peking University	Dec 2024
Edward P. Fitts Department of Industrial and Systems Engineering, NC State University	Jan 2024
Marshall School of Business (DSO group), University of Southern California	Jan 2024
School of Computing and Augmented Intelligence, Arizona State University	Jan 2024
Lee Kong Chian School of Business (OM group), Singapore Management University	Jan 2024
Department of Industrial Engineering and Decision Analytics, HKUST	Jan 2024
HKU Business School (IIM Area), University of Hong Kong	Jan 2024
Smeal College of Business (SC&IS Department), Penn State University	Dec 2023
Mendoza College of Business (ITAO Department), University of Notre Dame	Dec 2023
Telfer School of Management (Management Analytics Area), University of Ottawa	Nov 2023
School of Business (Analytics Group), Stevens Institute of Technology	Nov 2023

Conference Presentations

1. "Breaking the Vicious Cycle: Community Corrections Placement Support with an MDP Approach"
   - INFORMS Annual Meeting 2024, 2023, 2022; INFORMS Healthcare 2023; POMS 2023, 2022; IISE Annual Conference 2023; MSOM 2022
   - Georgia Tech ISyE Junior Researcher Workshop, Atlanta, GA, 2024 (Poster)
2. "Shortening Emergency Medical Response Time with Joint Operations of UAVs with Ambulances"
   - INFORMS Annual Meeting 2024, 2023, 2022, 2021, 2020; INFORMS Healthcare 2023; POMS 2022; WSC 2020
3. "Capacity Allocation and Revenue Sharing in Healthcare Alliances"
   - WSC 2018; CSAMSE 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 prepossessing
  * 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

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SERVICES

- **Session Chair**
  * INFORMS Annual Meeting: 2024
  * INFORMS Healthcare Conference: 2023 (co-chair)
  * POMS: 2022 (co-chair), 2023 (co-chair)
  * Winter Simulation Conference (WSC): 2020
- **Ad-hoc Reviewer**
  * Management Science
  * Manufacturing & Service Operations Management
  * Production and Operations Management
  * MSOM Healthcare SIG 2024
  * Health Care Management Science
  * IEEE Robotics and Automation Letters
  * Flexible Services and Manufacturing Journal
- **Volunteer**: Student monitor for INFORMS Healthcare Conference 2021