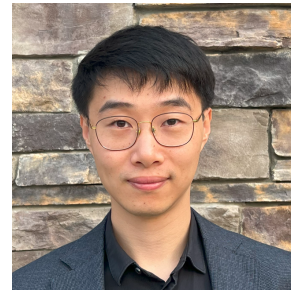**SUN Qiuzhuang**

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Brief Introduction

Qiuzhuang Sun is an Assistant Professor of Urban Informatics and Data Science in the College of Integrated Studies (CIS) at Singapore Management University (SMU). His research broadly lies in data-driven operations management, data science, and complex system modelling. He teaches Undergraduate and Postgraduate courses on data science and urban informatics at CIS.

Education

PhD (Industrial Systems Engineering), National University of Singapore, 2019

Bachelor of engineering (Industrial Engineering and Computer Science), Shanghai Jiao Tong University, 2015

Academic Appointments

Assistant Professor of Urban Informatics and Data Science, CIS

Awards and Honors

- ❖ First place of the Best Paper Competition in the 2023 INFORMS Conference on Quality, Statistics, and Reliability.

- ❖ Featured Article at the *ISE Magazine*, 2020.

- ❖ Excellent paper award of the Operations Research Society of China Reliability Chapter 2019 Annual Meeting.

- ❖ Runner-up of the 2024 IISE Data Analytics & Information Systems Case Study Competition.

- ❖ Third place of the GeoLifeCLEF 2024 competition at the 11th CVPR-FGVC Workshop.

- ❖ Finalist of the 2024 INFORMS Data Mining Society Data Challenge.

- ❖ First place and a finalist (for two different solutions) of the 2023 INFORMS Blue Summit Supplies Data Mining Challenge.

- ❖ First place of the 2022 INFORMS Quality, Statistics, and Reliability Industry Data Challenge Competition.

Professional Memberships

INFORMS

RESEARCH

Research Interests

- Data-driven decision-making

- Data science and machine learning

- Operations management related to reliability, health, and anomaly detection

- Smart city operations and urban informatics

Publications

Journal Articles [Refereed]

Selected publications (full list available at https://scholar.google.com/citations?user=zYjnznMAAAAJ&hl=en):

1. Sun, Q., Hu, J., and Ye, Z.-S. (2025), "Optimal abort policy for mission-critical systems under imperfect condition monitoring," *Operations Research*, to appear.

2. Liu, W., Sun, Q., Tang, L. C., and Ye, Z.‑S., "Robust data-driven design of a smart cardiac arrest response system," *Production and Operations Management*, to appear.

3. Sun, Q., Chen, P., Wang, X., and Ye, Z.-S., "Robust condition-based production and maintenance planning for degradation management," *Production and Operations Management*, 32(12), 3951-3967.

4. Xu, J., Sun, Q., Mo, H., and Dong, D., "Online routing for smart electricity network under hybrid uncertainty," *Automatica*, 145, 110538.

5. Sun, Q., Ye, Z.‑S., and Hong, Y., "Statistical modeling of multivariate destructive degradation tests with blocking," *Technometrics*, 62(4), 536‑548.

6. Sun, Q., Ye, Z.‑S., and Zhu, X., "Managing component degradation in series systems for balancing degradation through reallocation and maintenance," *IISE Transactions*, 52(7), 797‑810.

Research Grants

- **Energy Innovation Fund ACT Australia, Technology Demonstration Grant:** "Online health monitoring and anomaly detection in Li-ion batteries via trustworthy AI," chief investigator, 2025.04–2027.03.

TEACHING

Teaching Areas

Data science, operations research, probability and statistics, optimization