

# CURRICULUM VITAE

## Jin Wang *Ph.D.*

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### RESEARCH INTERESTS

- Management science, Operation research, Healthcare management, Reinforcement learning
- Data analysis, Data mining, Model selection, High dimensional data analysis, Deep learning

### TEACHING INTERESTS

- Statistical Methods in Business
- Business Programming (Python)
- Large-scale Business Data Analysis (R)
- Business Intelligence (R)

### EDUCATION

<b>Ph.D.</b>	Systems Engineering and Engineering Management <i>City University of Hong Kong</i>	2015
<b>M.S.</b>	Management Science and Engineering <i>Nanjing Tech University</i>	2011
<b>B.S.</b>	Industrial Engineering <i>Nanjing Tech University</i>	2008

### TEACHING EXPERIENCE

**Associate Professor of Professional Practice, Visiting Associate Professor**, Department of Management Science & Information Systems, Rutgers Business School, Rutgers University (since 2022)

- *Statistical Methods in Business*: Spring 2024, Winter 2024, Fall 2023 (160 students), Summer 2023 (33 students), Spring 2023 (161 students), Fall 2022 (189 students), Spring 2022 (168 students)
- *Foundations in Business Programming*: Fall 2023 (52 students)
- *Large-scale Business Data Analysis*: Spring 2024, Spring 2023 (55 students)

**Assistant Professor**, School of Intelligent Systems Science and Engineering, Jinan University (Zhuhai Campus), Guangdong, China (since 2019)

- *Fundamentals of Data Science*: 2020-21 first term
- *Operations Research*: 2020-21 first term; 2019-20 first term
- *Production Planning and Control*: 2020-21 second term; 2019-20 second term

## RESEARCH EXPERIENCE

### DATA SCIENCE

#### 1. Data analysis in health

- Socioeconomic impacts on Covid-19 cases (*Paper J1., J3.*)
- Adaptive learning techniques for forecasting COVID-19 daily cases (*working paper*)
- Access to food and services impact on cardiovascular disease in New Jersey (*Paper J4.*)
- Deep learning methods for predicting systolic blood pressure in elderly people using Fitbit data (*under review*)

#### 2. Data Science in healthcare management

- Non-clinical effects on surgery duration (*Paper J7.*)
- Reinforcement learning for appointment schedule with patient preferences (*Paper J11., J12.*)

#### 3. Machine learning algorithms

- Tree-based methods for detecting interaction terms in linear models (*Paper J2.*)

### OPERATIONS MANAGEMENT

#### 1. (Robust) optimization in Healthcare Management

- Determine surgeon assignment, surgery sequence, and start time (*Paper J5., J6., J9.*)
- Optimization models for scheduling (*Paper J8., J14.*)
- Select surgeries from a list and scheduling the surgeries (*Paper J9.*)

#### 2. Dynamic Appointment Scheduling

- Optimization and approximation methods for online scheduling (*Paper J10. and J13.*)

## PUBLICATIONS

- J1. Dhammika Amaratunga, Javier Cabrera, Debopriya Ghosh, Michael N. Katehakis, **Jin Wang\***, Wenting Wang (2021), "Socio-economic impact on COVID-19 cases and deaths and its evolution in New Jersey", *Annals of Operations Research*, **317**: 5-18, [doi.org/10.1007/s10479-021-03941-4](https://doi.org/10.1007/s10479-021-03941-4). (corresponding author)
- J2. **Jin Wang**, Javier Cabrera, Kwok Leung Tsui (2022), "A simulation-based tree method for building linear models with interactions", *Communications in Statistics — Theory and Methods*, **51**(2): 404-413, [doi.org/10.1080/03610926.2020.1749665](https://doi.org/10.1080/03610926.2020.1749665).
- J3. Dhammika Amaratunga, Javier Cabrera, Michael N. Katehakis, **Jin Wang**, Wenting Wang, Xyntarakis, Michail (2021), "Comparing Cumulative Trends (with an application to COVID-19 data)", *SLIIT Journal of Humanities and Sciences*, **2**(1): 12-18, [doi.org/10.4038/sjhs.v2i1.36](https://doi.org/10.4038/sjhs.v2i1.36).
- J4. Javier Cabrera, **Jin Wang**, Stavros Zinonos, William J Kostis, Krishnamurthy Subramanian, John B Kostis, Myocardial Infarction Data Acquisition System (MIDAS) Study Group (2021), "Yelp Data on Fast Food and Exercise Facilities Predict Cardiovascular Events", *Circulation*, **144**(Suppl\_1): A12361-A12361, [https://www.ahajournals.org/doi/abs/10.1161/circ.144.suppl\\_1.12361](https://www.ahajournals.org/doi/abs/10.1161/circ.144.suppl_1.12361).

- J5. **Jin Wang**, Hainan Guo, Kwok Leung Tsui (2020), “Two-stage robust optimisation for surgery scheduling considering surgeon collaboration”, *International Journal of Production Research*, **59**(21): 6437-6450, doi.org/10.1080/00207543.2020.1815887.
- J6. **Jin Wang**, Xin Li, Jing Chu, Kwok Leung Tsui (2020), “A two-stage approach for resource allocation and surgery scheduling with assistant surgeons”, *IEEE Access*, **8**(3): 49487-49496, doi.org/10.1109/ACCESS.2020.2979519.
- J7. **Jin Wang**, Javier Cabrera, Kwok Leung Tsui, Hainan Guo, Monique Bakker, John B. Kostis (2020), “Clinical and non-clinical effects on operative duration: evidence from a database on thoracic surgery”, *Journal of Healthcare Engineering*, **2020**(1): 1-8, doi.org/10.1155/2020/3582796.
- J8. Xin Li, **Jin Wang**, Yanchun Pan, “A MILP model of scheduling physical therapies with coupled operations in a basic setting rehabilitation center”, *16th International Conference on Service Systems and Service Management, ICSSSM 2019*, doi.org/10.1109/ICSSSM.2019.8887696.
- J9. **Jin Wang**, Hainan Guo, Monique Bakker, Kwok Leung Tsui (2018), “An integrated approach for surgery scheduling under uncertainty”, *Computers & Industrial Engineering*, **118**(4): 1-8, doi.org/10.1016/j.cie.2018.02.017.
- J10. **Jin Wang**, Youhua (Frank) Chen, Minghui Xu (2018), “Optimization and approximation methods for dynamic appointment scheduling with patient choices”, *Computers & Operations Research*, **92**(4): 65-76, doi.org/10.1016/j.cor.2017.12.009.
- J11. Xin Li, **Jin Wang\***, Richard Y. K. Fung (2018), “Approximate dynamic programming approaches for appointment scheduling with patient preferences”, *Artificial Intelligence in Medicine*, **85**(4): 16-25, doi.org/10.1016/j.artmed.2018.02.001. (corresponding author)
- J12. **Jin Wang**, Richard Y. K. Fung (2015), “Adaptive dynamic programming algorithms for sequential appointment scheduling with patient preferences”, *Artificial Intelligence in Medicine*, **63**(1): 33-40, doi.org/10.1016/j.artmed.2014.12.002.
- J13. **Jin Wang**, Richard Y. K. Fung (2015), “Dynamic appointment scheduling in outpatient department with patient preferences and choices”, *Industrial Management & Data Systems*, **115**(4): 700-717, doi.org/10.1108/IMDS-12-2014-0372.
- J14. **Jin Wang**, Richard Y.K. Fung (2014), “An integer programming formulation for outpatient scheduling with patient preference”, *Industrial Engineering & Management Systems*, **13**(2): 193-202, doi.org/10.7232/iems.2014.13.2.193.

## SERVICE

### CONFERENCE ORGANIZATION

1. Organized and chaired session for INFORMS Annual Meeting, Indianapolis, IN, October 2022.

### AD HOC REVIEWERS

(Alphabetical Order)

1. Chaos
2. Computers & Industrial Engineering
3. Computers & Operations Research
4. European Journal of Operational Research
5. Flexible Services and Manufacturing

6. IEEE Journal of Biomedical and Health Informatics
7. IISE Transactions
8. International Journal of Medical Informatics
9. Naval Research Logistics

## CONFERENCE PRESENTATIONS

1. “Confidence and Prediction Intervals for Forecasting COVID-19 Daily Cases and Deaths Using Adaptive Deep Learning Models”, online talk, *the INFORMS Annual Meeting*, Anaheim, CA, 24-27 October, 2021.
2. “Adaptive learning models and techniques for forecasting COVID-19 daily cases and deaths”, online talk, *31st European Conference on Operational Research*, Athens, Greece, 11-14 July 2021.
3. “Data-driven surgery scheduling: from data analysis to modeling and optimization”, *the tenth POMS-HK international conference*, Hong Kong, 5-6 January 2019.
4. “Understanding surgery duration from new perspectives: evaluation from a database on thoracic surgery”, *the ninth POMS-HK international conference*, Hong Kong, 6-7 January 2018.
5. “An integer programming formulation for outpatient scheduling with patient preference”, *Asia Pacific Industrial Engineering and Management Systems Conference*, Cebu, Philippines, 3-6 December 2013.