

# Yixin WANG

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## EDUCATION

### Shenzhen University (SZU)

Sept 2020 – Jun 2023

*MSc in Management Science and Engineering*, equivalent to *MPhil*

College of Management

**GPA: 3.52, Average Score: 85.9/100**, Supervisor: A/Prof. Hong Wang and Prof. Ben Niu

Thesis: Medical resources allocation for hierarchical healthcare system based on multiobjective bacterial colony optimization

### Dongguan University of Technology (DGUT)

Sept 2016 – Jun 2020

*BSc in Industrial Engineering*

School of Mechanical Engineering

**GPA: 3.90, Average Score: 89.0/100**

Thesis: Prediction and Analysis of The Value of Unfilled Orders Based on ARIMA Model

## WORK EXPERIENCE

### Research Associate (Full-time)

Dec 2024 – Now

Harbin Institute of Technology (Shenzhen) & The University of Sydney      School of Robotics and Advanced Manufacturing

### Research Associate (Full-time)

Jul 2023 – Apr 2024

The Hong Kong Polytechnic University      Department of Logistics and Maritime Studies (LMS)

### Research Assistant (Part-time)

Nov 2020 – Nov 2021

Shenzhen University      Greater Bay Area International Institute for Innovations (GBAI3)

### Teaching Assistant (Part-time)

Spring terms, Mar 2022 – Jun 2022 & Mar 2021 – Jun 2021

Shenzhen University      Tutorials: "E-Commerce Simulation Practice" & "Basic C Programming Language"

## ACADEMIC HONORS

- **Best Paper Award**, the 13th International Conference on Swarm Intelligence (ICSI) (2022)
- **Second Prize**, The 19th China Postgraduate Mathematical Contest in Modeling (2022) **Rank: 290/4021**
- **Second Prize**, The 11th Asia and Pacific Mathematical Contest in Modeling (APMCM), PG group (2021)
- **Third Prize**, The 18th China Postgraduate Mathematical Contest in Modeling (2021)
- **Second Prize** for Excellent Postgraduate Scholarship, SZU (**10 awardees** each year) (2022, 2023)
- **National Encouragement Scholarship**, Department of Education of Guangdong Province, China (**top 5% of undergraduates** in the faculty each year) (2017, 2018, 2019)
- **Guangda Scholarship; Kanghua Scholarship**, DGUT (**only 2 undergraduates** each year) (2018, 2019)
- **Outstanding Graduate** (2020); **First Prize** for Excellent Undergraduate Scholarship, DGUT (**only 2 undergraduates** each grade each year) (2017)

## MISCELLANEOUS

### Professional skills:

- **Projects experiences:** Deep learning and reinforcement learning, Discrete event simulation (particularly public transit system), Inventory systems, Complex systems modeling, Meta-heuristic optimization, etc.
- **Programming tools:** Python, PyTorch, Simpy, Ray, Git, Matlab, Linux, etc.

**Language proficiency:** **Chinese:** First-language; **English:** IELTS 6.5; **Cantonese:** Advanced

## RESEARCH INTERESTS

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- *Intelligent Decision-making*: Learning algorithms (DL and RL), Operational research and Optimization, etc.
- *Interdisciplinary Applications*: Complex systems in Transportation and Energy, Operation management, etc.

## PUBLICATIONS

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### Peer-referred journal papers †

- [1] Hong Wang (*Supervisor*), Yixin Wang, Menglong Liu, Tianwei Zhou, and Ben Niu. "An enhanced bacterial colony optimization with dynamic multi-leader co-evolution for multiobjective optimization problems." *Expert Systems*, 2023. (JCR Q2, IF: 3.30) <[Link](#)> <[PDF](#)>
- [2] Hong Wang (*Supervisor*), Yikun Ou, Yixin Wang, Tongtong Xing, and Lijing Tan. "Semisupervised bacterial heuristic feature selection algorithm for high-dimensional classification with missing labels." *International Journal of Intelligent Systems*, 2023. (JCR Q1, IF: 8.993) <[Link](#)> <[PDF](#)>
- [3] Shuang Geng, Xiaofu He, Yixin Wang, Hong Wang, Ben Niu, Kris M. Law. "Multicriteria recommendation based on bacterial foraging optimization." *International Journal of Intelligent Systems*, 2021. (JCR Q1, IF: 8.993) <[Link](#)> <[PDF](#)>

### Full papers in conference proceedings †

- [4] Hong Wang (*Supervisor*), Yixin Wang (*Presentation*), Mengjie Wan, Sili Wen, and Shan Wei. "Multi-objective bacterial colony optimization based on multi-subsystem for environmental economic dispatching." In *the 13th International Conference on Swarm Intelligence (ICSI 2022)*. (Best Paper Award) <[Link](#)> <[PDF](#)>
- [5] Hong Wang (*Supervisor*), Yikun Ou, and Yixin Wang. "A multi-objective structure variant bacterial heuristic feature selection method in high-dimensional data classification." In *the 6th Data Mining and Big Data (DMBD 2021)*. <[Link](#)> <[PDF](#)>
- [6] Hong Wang (*Supervisor*), Yixin Wang (*Presentation*), Yikun Ou, Ben Niu. "Bacterial foraging optimization with leader selection strategy for bi-objective optimization." In *the 12th International Conference on Swarm Intelligence (ICSI 2021)*. <[Link](#)> <[PDF](#)>
- [7] Hong Wang (*Supervisor*), Zhuo Zhou, Yixin Wang, Xiaohui Yan. "Feature selection for image classification based on bacterial colony optimization." In *the 12th International Conference on Swarm Intelligence (ICSI 2021)*. <[Link](#)> <[PDF](#)>

† In papers [1, 4, 6], I (Yixin Wang) conducted **at least 70%** of the research, with the first author Hong Wang being my supervisor and the grant recipient. For papers [2, 3, 5, 7], I contributed **more than 20%** of the research work as a collaborator.

### Working paper

- Yixin Wang et al. "Energy-efficient and Perturbation-aware Dwell-Recharge Integrated Strategy with Deep Reinforcement Learning for Catenary-free Tramway", with HITSZ and USYD.

## OTHER PROJECT & PRESENTATION

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- "Deep Reinforcement Learning Based Real-time Task Assignment for Motorman in Hong Kong Public Tram Traffic", Project at The Hong Kong Polytechnic University (PolyU), Hong Kong, Nov 2023 – Apr 2024. <[Link](#)>
- "Learning to Order for Inventory Systems with Uncertainties through Deep Reinforcement Learning", Presentation at the 2nd ORSHK Young Researchers Workshop, City University of Hong Kong (CityU), Hong Kong, Dec 2023. <[Link](#)>

## BLOGS

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- "An Easy Way to Implement and Manage Parallel Experiments on a Single Machine with Ray.", In medium.com, March 2025. <[Link](#)>
- "Time Series Representation from a Contrastive Self-supervised Learning Perspective: MoCo-based Time Series Representation in a Case Study of Traffic Detector Anomaly Detection.", In medium.com, Oct 2024. <[Link](#)>