Yixin WANG

📍 @ Shenzhen University Town, Shenzhen CHINA, GMT+8 | 👤 Teochew, Guangdong, CHINA

🎓 Google Scholar | ✉ Email: wangyixin@stu.hit.edu.cn

🐙 github.com/eyixinwang | 🌐 Homepage: https://eyixinwang.github.io/

QUALIFICATION & EXPERIENCE

- **Research Associate (Full-time)**, Shenzhen CHINA, May 2024 – Now
  Harbin Institute of Technology, Shenzhen, School of Robotics and Advanced Manufacture
  Duties: research on smart energy management and intelligent transportation system; mathematical modeling; software and AI model development; research publication; literature review; data collection; report, etc.

- **Research Associate (Full-time)**, Hong Kong SAR, Jul 2023 – Apr 2024
  Hong Kong Polytechnic University, Faculty of Business, Department of Logistics and Maritime Studies
  Duties: research on public transit system; research on inventory system; simulation software and AI model development; mathematical modeling; research publication; literature review; data collection; report, etc.
  Top "Transport and Logistics" Research Institution

- **Master of Science** (3 years by research, equiv. **MPhil**), Shenzhen CHINA, Sep 2020 – Jun 2023
  Shenzhen University, College of Management
  Major: Management Science and Engineering, **GPA: 85.9/100**
  Thesis: Hierarchical healthcare system resource allocation with bacterial heuristic optimization (45k words)

- **Research Assistant (Part-time)**, Shenzhen CHINA, Nov 2020 – Nov 2021
  Shenzhen University, Greater Bay Area International Institute for Innovations
  Duties: research on intelligent computation; data processing and software; grant application assistance, etc.

- **Teaching Assistant (Part-time)**, Shenzhen CHINA, Mar 2022 – Jul 2022
  Shenzhen University, Tutorial: *E-Commerce Simulation Practice*
  Duties: key concepts teaching; organizing case study; tools (ERP, arenas) demonstration; assessment, etc

- **Teaching Assistant (Part-time)**, Shenzhen CHINA, Mar 2021 – Jul 2021
  Shenzhen University, Tutorial: *Basic C Programming Language*
  Duties: key concepts teaching; software guidance; organizing group projects; troubleshooting; assessment, etc

PUBLICATIONS & RESEARCH OUTPUTS

- <u>Yixin Wang</u>, Gaoqi Liang, Fengji Luo. "Energy-efficient and Perturbation-aware Dwell-Recharge Integrated Strategy with Deep Reinforcement Learning for Catenary-free Tramway", **Under Review** at ***IEEE Transactions on Intelligent Transportation Systems (IEEE T-ITS)***.

Peer-referred journal papers †

[1] <u>Yixin Wang</u>, Gaoqi Liang, Jichao Bi, Junhua Zhao. "Real-Time Smart Meter Abnormality Detection Framework via End-to-end Self-supervised Time-series Contrastive Learning with Anomaly Synthesis", *Southern Power System Technology* 19 no. 7(2025): 62-71,89. <**Link**> <**PDF**>

[2] Hong Wang (*Supervisor*), <u>Yixin Wang</u>, Menglong Liu, Tianwei Zhou, and Ben Niu. "An enhanced bacterial colony optimization with dynamic multi-leader co-evolution for multiobjective optimization problems." *Expert Systems* 40, no. 10 (2023): e13410. (**JCR Q2, IF: 3.30**) <**Link**> <**PDF**>

[3] Hong Wang (*Supervisor*), Yikun Ou, <u>Yixin Wang</u>, Tongtong Xing, and Lijing Tan. "Semisupervised bacterial heuristic feature selection algorithm for high-dimensional classification with missing labels." *International Journal of Intelligent Systems* 2023, no. 1 (2023): 4196920. (**JCR Q1, IF: 8.99**) <**Link**> <**PDF**>

[4] Shuang Geng, Xiaofu He, <u>Yixin Wang</u>, Hong Wang, Ben Niu, Kris M. Law. "Multicriteria recommendation based on bacterial foraging optimization." *International Journal of Intelligent Systems* 37, no. 2 (2022): 1618-1645. (**JCR Q1, IF: 8.99**) <**Link**> <**PDF**>

Full papers in conference proceedings †

[5] Hong Wang (*Supervisor*), <u>Yixin Wang</u> (*Presenter*), Mengjie Wan, Sili Wen, and Shan Wei. "Multi-objective bacterial colony optimization based on multi-subsystem for environmental economic dispatching." In *13th International Conference on Swarm Intelligence* (**ICSI 2022**). (**Best Paper Award**) <**Link**> <**PDF**>

[6] Hong Wang (*Supervisor*), <u>Yixin Wang</u> (*Presenter*), Yikun Ou, Ben Niu. "Bacterial foraging optimization with leader selection strategy for bi-objective optimization." In *12th International Conference on Swarm Intelligence* (**ICSI 2021**). <**Link**> <**PDF**>

[7] Hong Wang (*Supervisor*), <u>Yixin Wang</u> (*Presenter*), Ting Guo, Yibin Wang, and Yikun Ou. "An empirical study of social E-commerce platform on users intention: Take WeChat E-commerce group as an example." In *12th International Conference on E-business, Management and Economics* (**ICEME 2021**). <**Link**> <**PDF**>

[8] Hong Wang (*Supervisor*), Yikun Ou, and <u>Yixin Wang</u>. "A multi-objective structure variant bacterial heuristic feature selection method in high-dimensional data classification." In *6th Data Mining and Big Data* (**DMBD 2021**). <**Link**> <**PDF**>

[9] Hong Wang (*Supervisor*), Zhuo Zhou, <u>Yixin Wang</u>, Xiaohui Yan. "Feature selection for image classification based on bacterial colony optimization." In *12th International Conference on Swarm Intelligence* (**ICSI 2021**). <**Link**> <**PDF**>

† In full papers [2, 5, 6, 7], I (Yixin Wang) conducted **at least 70%** of the research in conceptualization, software, methodology, analysis, original draft writing and review, with the first author Hong Wang being my supervisor and the grant recipient. While students contribute most of the work, supervisors in China are often listed as first authors. For [3, 4, 8, 9], I contributed **more than 20%** of the research work in software, experiment and writing.

Research reports and presentations

- <u>Yixin Wang</u> (*Presenter*), Yang Yu, Joshua Zoen-Git Hiew, Vincent Tsz Fai Chow. "Learning to Order for Inventory Systems with Uncertainties through Deep Reinforcement Learning", *Research Report* at The Hong Kong Polytechnic University, Jul 2023 – Nov 2023; and *Presentation* at *The 2nd ORSHK Young Researchers Workshop*, City University of Hong Kong, Dec 2023 <**Link**><**Slide**>

- Yixin Wang, Vincent Tsz Fai Chow. "Deep Reinforcement Learning Based Real-time Task Assignment for Motorman in Hong Kong Public Tram Traffic", *Research report* at the Hong Kong Polytechnic University, Nov 2023 – Apr 2024. <**Link**>

- Hong Wang (*Supervisor*), Yixin Wang (*Presenter*), Sili Wen, and Xinyu Li."Resource Integrated Optimization of Medical Alliance as Grade 3A Hospitals Eliminate General Outpatient Clinics", *Presentation* at *The 5th Intelligent Manufacturing and System Engineering Conference*, Shenzhen University, Nov 2022. <**Link**>

Blogs

- Yixin Wang. "An Easy Way to Implement and Manage Parallel Experiments on a Single Machine with Ray", In medium.com, Mar 2025. <**Link**>

- Yixin Wang. "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**><**Code**>

ACADEMIC HONORS

- **Best Paper Award**, The 13th International Conference on Swarm Intelligence (ICSI), 2022

- **Postgraduate Grant of High-level Discipline Competition**, SZU, 13k CNY, P.I., 2022

- **Second Prize**, The 19th China Postgraduate Mathematical Contest in Modeling, 2022, **Rank: 290/4021**

- **Second Prize** for Excellent Postgraduate Scholarship, SZU, **only 10 awardees** annually, 2022, 2023

- **Second Prize**, The 11th Asia and Pacific Mathematical Contest in Modeling, PG group, 2021

- **Third Prize**, The 18th China Postgraduate Mathematical Contest in Modeling, 2021

- **Outstanding Graduate**, DGUT, **top 2% of undergraduates** in the faculty annually, 2020

- **National Encouragement Scholarship**, Department of Education of Guangdong Province, **top 5% of undergraduates** in the faculty annually, 2017, 2018, 2019

- **University Enterprise Scholarship**, DGUT, **only 2 finalists** in the faculty annually, 2017, 2018, 2019

MISCELLANEOUS

- **Professional memberships**:
  - **Full Member**, Operational Research Society of Hong Kong (ORSHK), 2023 – Now
  - **Graduate Student Member**, The Institute of Electrical and Electronics Engineers (IEEE), 2025 – Now

- **Research experiences and interests**:
  - Complex systems modeling in Transportation and Energy; Data-driven decision-making and learning algorithms (DL and RL); Operational research; Discrete event simulation; Meta-heuristic optimization, etc.

- **Technical tools**: Python, PyTorch, Simpy, Ray, Git, Matlab, Linux, etc. **Yixin is a Technophile.**

- **Language**: **Teochew Min**: Native; **Mandarin**: Native; **English**: IELTS 6.5; **Cantonese**: Advanced

- **City volunteer** with **more than 145 hours** of service during the pandemic, my three years master study