

Shiqing Liu

Personal Information

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Nationality: Chinese

Date of birth: 06/08/1995



Education

- ◆ **Bielefeld University, Bielefeld, Germany** (Jan. 2022 –)
 - PhD student, Faculty of Technology.
 - Supervisor: Prof. Dr.-Ing. Ulrich Rückert
- ◆ **University of Surrey, Surrey, UK** (Jan. 2020 – Jan. 2022)
 - PhD student, Department of Computer Science.
 - Supervisor: Prof. Dr.-Ing. Yaochu Jin
- ◆ **Beijing Institute of Technology, Beijing, China** (Sep. 2017 – Jun. 2020)
 - Master of Control Science and Engineering.
 - GPA: 3.44 / 4.0
- ◆ **Beijing Institute of Technology, Beijing, China** (Sep. 2013 – Jun. 2017)
 - Bachelor of Science in Automation.
 - GPA: 3.55 / 4.0

Research Interests

Graph neural networks, combinatorial optimization, federated learning, neural architecture search.

Awards and Honors

2023 Outstanding Presentation Award at ABCP Annual Conference, AI and Cyber Security Track

2023 Best Student Paper Award at the 5th International Conference on Data-driven Optimization of Complex Systems

2016 Mathematical Contest in Modeling (MCM), Meritorious Winner

2015 Mathematical Contest in Modeling (MCM), Meritorious Winner

Research Experience

◆ Teaching Assistant

Teaching assistant for ISY project *Privacy-Preserving Federated Learning* (Feb. 2022 – Nov. 2022), which won the best project and presentation award at the ISY 2022 conference.

- Leading discussion sections for a group of master students.
- Holding office hours for problem-solving.

- Organizing project programming and presentation.

◆ **Conference Experience**

- An oral presentation at the IEEE Congress on Evolutionary Computation (CEC), Chicago, USA, 2023.
- An oral presentation at the 12th Edition of International Conference Series on Evolutionary Multi-Criterion Optimization (EMO), Leiden, Netherlands, 2023.
- An oral presentation at the IEEE International Conference on System, Man and Cybernetics (SMC), Miyazaki, Japan, 2018.

◆ **Paper Publications**

- [1] **Shiqing Liu**, Xueming Yan, and Yaochu Jin. An Edge-Aware Graph Autoencoder Trained on Scale-Imbalanced Data for Travelling Salesman Problems. Knowledge-Based Systems (under review).
- [2] Zeqi Zheng, Ziqi Wang, Xueming Yan, Yaochu Jin, **Shiqing Liu**, and Qiqi Liu. Federated Graph Neural Networks with Bipartite Embedding for Multi-objective Facility Location. In Proceedings of the 2023 International Conference on Data-driven Optimization of Complex Systems (DOCS).
- [3] **Shiqing Liu**, Peng Yue, and Yaochu Jin. Graph Q-learning Assisted Ant Colony Optimization for Vehicle Routing Problems with Time Windows. In Proceedings of the 2023 Companion Conference on Genetic and Evolutionary Computation (GECCO '23 Companion).
- [4] **Shiqing Liu**, Xilu Wang, and Yaochu Jin. Federated Bayesian Optimization for Privacy-preserving Neural Architecture Search, In Proceedings of the 2023 IEEE Congress on Evolutionary Computation (CEC).
- [5] **Shiqing Liu**, Xueming Yan, and Yaochu Jin. End-to-End Pareto Set Prediction with Graph Neural Networks for Multi-objective Facility Location. In Proceedings of the 2023 International Conference on Evolutionary Multi-Criterion Optimization (EMO).
- [6] **Shiqing Liu**, Haoyu Zhang, and Yaochu Jin. A Survey on Computationally Efficient Neural Architecture Search, Journal of Automation and Intelligence, 2022, 1(1).
- [7] Hangyu Zhu, Jinjin Xu, **Shiqing Liu**, and Yaochu Jin. Federated Learning on Non-IID Data: A Survey, Neurocomputing, 2021, 465: 371-390.
- [8] Bin Xin, **Shiqing Liu**, Zhihong Peng, et al. An Estimation of Distribution Algorithm for Multi-robot Multi-point Dynamic Aggregation Problem, In Proceedings of the 2018 IEEE International Conference on Systems, Man, and Cybernetics (SMC).

Academic Skills

- *Language*: IELTS 7.0
- *Programming*: Python, MATLAB.