

Zhili WANG

+852 66821284 | zwangeo@connect.ust.hk

EDUCATION

The Hong Kong University of Science and Technology

Ph.D. in Data Science and Analytics; GPA: 3.74/4.3; Supervisor: Lei CHEN

Hong Kong SAR, China

Sep. 2020 – Expected Nov. 2024

The Hong Kong University of Science and Technology

M.S. in Big Data and Technology; GPA: 3.70/4.3

Hong Kong SAR, China

Sep. 2019 – Nov. 2020

University of Electronic Science and Technology of China

B.Eng. in Spatial Information and Digital Technology; GPA: 3.87/4.0

Chengdu, Sichuan, China

Sep. 2015 – Jun. 2019

RESEARCH INTERESTS

- Automated graph neural networks (AutoGNNs): model and algorithm designs
- Large language models (LLMs) enhanced data science systems

SELECTED PUBLICATIONS

- **Zhili WANG**, Shimin DI, Lei CHEN, Xiaofang ZHOU. Search to Fine-tune Pre-trained Graph Neural Networks for Graph-level Tasks. ICDE, 2024. *arXiv:2308.06960*.
- **Zhili WANG**, Shimin DI, Lei CHEN. A Message Passing Neural Network Space for Better Capturing Data-dependent Receptive Fields. SIGKDD, 2023. *DOI:10.1145/3580305.3599243*.
- **Zhili WANG**, Shimin DI, Lei CHEN. AutoGEL: An Automated Graph Neural Network with Explicit Link Information. NeurIPS, 2021. *arXiv:2112.01064*.

SELECTED RESEARCH PROJECTS

Search to Fine-tune Pre-trained Graph Neural Networks

Mar. 2023 - Nov. 2023

- Developed a novel GNN fine-tuning framework that supports automated fine-tuning strategy search in downstream.
- Proposed a novel and unified GNN fine-tuning search space to allow powerful strategies to be searched.
- Consistently boosted effectiveness of 10 famous pre-trained GNNs on 8 different downstream graph datasets.

A Space for Better Capturing Data-dependent Receptive Fields in GNNs

May 2022 - Feb. 2023

- Revealed the connection between GNN design dimensions with receptive fields (RFs) on existing benchmarks.
- Identified crucial GNN design dimensions for RFs and summarized a unified space for automated search.
- Consistently improved effectiveness on node-level and graph-level tasks across 14 popular graph datasets.

An Automated Graph Neural Network with Explicit Link Information

Sep. 2020 - May 2021

- Presented a novel automated GNN (AutoGNN) framework to explicitly leverage rich link information in graphs.
- Proposed a powerful GNN search space and upgraded search algorithm to ensure the effectiveness and efficiency.
- Consistently improved effectiveness on node-level, link-level, and graph-level tasks across 16 popular graph datasets.

WORKS ON-PROGRESS

- Shimin DI, Jialiang WANG, **Zhili WANG**, Jiachuan WANG, Hanmo LIU Lei CHEN, Xiaofang ZHOU. Large Language Models as a More Automated, User-Friendly Machine Learning Scientist: Potential, Opportunities, and the Future Directions. To be submitted soon.
- Jialiang WANG, Shimin DI, **Zhili WANG**, Lei CHEN, Xiaofang ZHOU. LLM-driven Automated Graph Neural Networks. To be submitted soon.
- Yubo Wang, **Zhili WANG**, Shimin DI, Haoyang LI, Fei Teng, Hao Xin, Lei Chen. Understanding the Embedding Methods on Hyper-relational Knowledge Graph. Submitted in May 2024.

ACADEMIC ACHIEVEMENTS

- Postgraduate Studentship from HKUST (2020 – Present)
- People's Undergraduate Scholarship from UESTC (2015 – 2019)

SKILLS SUMMARY

- **Programming:** Python, PyTorch
- **Languages:** Native Mandarin, Proficient English (IELTS 7.5, GRE 319+3)