ZHIHAO DING

Phone: (+86) 17756559677 | E-mail: tommy-zh.ding@connect.polyu.hk | Google Scholar

EDUCATION

The Hong Kong Polytechnic University Hong Kong
*Doctor of Philosophy in Computer Science (**Ph.D.**)* *Sep. 2022 – Present*
Advisor: Dr. Jieming Shi
GPA: 3.82/4.00

Xi'an Jiaotong University Xi'an, China
*Master of Control Science and Engineering (**M.S.**)* *Sep. 2019 – Jul. 2022*
Advisor: Prof. Yadong Zhou
GPA: 3.86/4.00 (top 10%)

Northeastern University Shenyang, China
*Bachelor of Automation (**B.S.**)* *Sep. 2015 – Jul. 2019*
GPA: 3.67/4.00 (top 15%)

RESEARCH INTERESTS

Data Mining, Structured Data Representation Learning, Table Understanding, Graph Anomaly Detection, AI for Drug/Material

PUBLICATIONS

(* denotes co-first authors)

[1] **Zhihao Ding**, Ting Zhang, Yiran Li, Jieming Shi, Chen Jason Zhang. "RingFormer: A Ring-Enhanced Graph Transformer for Organic Solar Cell Property Prediction." AAAI, 2025. **(Oral, Top 4.65%)**

[2] **Zhihao Ding**, Jieming Shi, Shiqi Shen, Xuequn Shang, Jiannong Cao, Zhipeng Wang, Zhi Gong. "SGOOD: Substructure-enhanced Graph-Level Out-of-Distribution Detection." CIKM, 2024.

[3] **Zhihao Ding**, Jieming Shi, Qing Li, Jiannong Cao. "Effective Illicit Account Detection on Large Cryptocurrency MultiGraphs." CIKM, 2024.

[4] Yuanhang Zou*, **Zhihao Ding***, Jieming Shi, Shuting Guo, Chunchen Su, and Yafei Zhang. "EmbedX: A Versatile, Efficient and Scalable Platform to Embed Both Graphs and High-Dimensional Sparse Data." VLDB, 2023.

RESEARCH EXPERIENCE

The Hong Kong Polytechnic University | Ph.D. Student Sep. 2022 – Present
Advisor: Dr. Jieming Shi *Hong Kong*
- Project-1: Illicit Account Detection on Cryptocurrency Transaction Networks [paper]
- Project-2: Graph-level Out-of-distribution Detection [paper]
- Project-3: Graph Transformer for Organic Solar Cell Property Prediction [paper]
- Project-4: Table Understanding through Pretrained Language Models [ongoing]

Microsoft Research Asia | Research Intern Mar. 2024 – Dec. 2024
Mentors: Dr. Jia Zhang, Ms. Xinran Wei, Mr. Lin Huang *Beijing, China*
- Developing efficient and equivalent geometric graph transformer for 3D molecular graphs [paper]

WeChat | Research Intern June. 2022 – Sept. 2022
Mentors: Mr. Yuanhang Zou, Dr. Jieming Shi *Guangzhou, China*
- Designed optimized graph sampling strategies and hybrid models to leverage both large-scale graph data and high-dimensional sparse data on EmbedX, an industrial distributed learning framework. [paper]

Xi'an Jiaotong University | Master Student Sep. 2019 – June 2022
Advisors: Prof. Yadong Zhou, Prof. Xiaoming Liu *Xi'an, China*
- Proposed a generative model that leverages social network relationships for inferring missing user attributes. [paper]

SKILLS

Programming Languages: Python, MySQL, ElasticSearch, Ubuntu, Java
Frameworks: PyTorch, Tensorflow, Pytorch-Geometric, DGL, NetworkX, MLflow, RDKit, DeepChem
Others: English (TOEFL 105), LaTeX, Git, Docker, Markdown