Xinyu Fu 付新宇

Ph.D. Candidate in Computer Science and Engineering
Department of Computer Science and Engineering, The Chinese University of Hong Kong, Hong Kong SAR
xyfu@cse.cuhk.edu.hk | cynricfu.github.io | cynricfu | cynricfu

Education

The Chinese University of Hong Kong (CUHK) — *Hong Kong SAR, China*
Doctor of Philosophy in Computer Science and Engineering — *Aug. 2018 - Present*
- Supervised by Prof. Irwin King
- Research Interest: **heterogeneous graph neural network**, **federated graph learning**

The Chinese University of Hong Kong (CUHK) — *Hong Kong SAR, China*
Bachelor of Science in Computer Science — *Sept. 2016 - July 2018*
- Cumulative GPA: 3.71/4.00 Major GPA: 3.86/4.00
- ELITE Stream Student Scholarship, Dean's List

Sun Yat-Sen University (SYSU) — *Guangzhou, China*
CUHK-SYSU Engineering Undergraduate Programme — *Sept. 2014 - July 2016*
- GPA: 3.9/4.0
- Second-class Scholarship

Research Experience

FedHGN: A Federated Framework for Heterogeneous Graph Neural Networks — *CUHK, Hong Kong SAR*
Postgraduate Research — *Jul. 2022 - Dec. 2022*
- Accepted by IJCAI 2023
- A federated learning framework for heterogeneous GNN
- First to investigated schema privacy preserving in federated heterogeneous graph learning

Metapath Context Convolution-based Heterogeneous Graph Neural Networks — *CUHK, Hong Kong SAR*
Postgraduate Research — *Nov. 2021 - Jul. 2022*
- Submitted to Neural Networks
- Proposed a novel method to accelerate metapath-based heterogeneous GNN
- Achieved improved prediction accuracy and computational efficiency on five real-world datasets

Drug Repurposing via Graph Representation Learning on Biomedical KG — *AWS, Shanghai*
Research Intern — *May 2020 - Nov. 2020*
- Drug repurposing: to find new therapeutic indications for existing drugs
- Developed a drug repurposing framework via learning from biomedical knowledge graphs
- Explored various backend graph embedding methods with extensive experiments

MAGNN: Metapath Aggregated Graph Neural Networks — *CUHK, Hong Kong SAR*
Postgraduate Research — *Apr., 2020*
- **Xinyu Fu**, Jiani Zhang, Ziqiao Meng, Irwin King. **Accepted as a full paper to WebConf 2020**
- Proposed a novel GNN architecture aggregating metapath instances on heterogeneous networks
- Obtained state-of-the-art results in node classification/clustering and link prediction on three real-world datasets

Skills

Programming Python, C/C++, Linux, LaTeX, Markdown
Framework PyTorch, DGL, TensorFlow
Languages Mandarine (Native), English (Fluent), Cantonese (Intermediate)
Reviewing NeurIPS (2021), WebConf (2022), WSDM (2023), AAAI (2023), ECML-PKDD (2023), TNNLS, TSC, NEUNET, PR, FGCS, TNSE

Honors & Awards

2019 **Best TA Award**, Department of Computer Science and Engineering, CUHK — *Hong Kong SAR*
2018 **Dean's List**, Faculty of Engineering, CUHK — *Hong Kong SAR*
2017 **ELITE Stream Student Scholarship**, Faculty of Engineering, CUHK — *Hong Kong SAR*
2017 **Dean's List**, Faculty of Engineering, CUHK — *Hong Kong SAR*
2016 **Honorable Mention**, The Mathematical Contest in Modeling (MCM) — *U.S.A.*