Zirui Yuan

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Education

Tianjin University, Tianjin, China — Sept. 2021 – Mar. 2024 (Expected)

Master of Computer Technology
Supervisor: Prof. Minglai Shao
GPA: 83%
Thesis: "Research on Influence Maximization Methods for Complex Information Propagation Scenarios"

Dalian Maritime University, Dalian, China — Sept. 2017 – Jun. 2021

B.E. in Electronic Information Science and Technology
Rank: 5 / 88 GPA: 88%

Publication

- **Zirui Yuan**, Minglai Shao, Qiben Yan. Motif-level Anomaly Detection in Dynamic Graphs. IEEE Transactions on Information Forensics Security (TIFS), 2023. Impact Factor: 7.231.
- **Zirui Yuan**, Minglai Shao, Zhiqian Chen. Graph Bayesian Optimization for Multiplex Influence Maximization. The 38th Annual AAAI Conference on Artificial Intelligence (AAAI) (accepted).

Research Experience

Anomaly Detection in Dynamic Graphs — Nov. 2021 – Jun. 2022

- Developed a general Motif-level Anomaly Detection framework for dynamic graphs to identify anomalies in different motifs.
- Designed an effective method for dynamic graph learning, which integrates local topological and temporal dependency.
- Evaluated this framework on real-world dynamic graph datasets to demonstrate its effectiveness.
- Published 1 paper as first author in top cybersecurity journal (TIFS2023).

Multiplex Influence Maximization — Sept. 2022 – Aug. 2023

- Proposed Multiplex Influence Maximization to model multi-information diffusion in networks for realistic scenarios.
- Designed Multiplex Information Diffusion Model considering heterogeneous patterns and associations.
- Developed Graph Bayesian Optimization framework incorporating graph neural networks and Bayesian regression for efficient optimization.
- 1 first-authored paper accepted by AAAI 2024.

Honors and Awards

- *2nd Prize*, Scholarship of Tianjin University — Sept. 2023
- *2nd Prize*, Scholarship of Tianjin University — Sept. 2022
- *1st Prize*, Scholarship of Tianjin University — Sept. 2021
- Outstanding Graduate of Dalian — Jun. 2021
- *1st Prize*, American Undergraduate Mathematical Contest in Modeling (Top **10%**) — Jan. 2019
- *1st Prize*, Scholarship of Dalian Maritime University (continued 3 years) — Sept. 2018 - Jun. 2021

Skills

- Programming Languages: C/C++, Python, Shell, Matlab, Java
- Languages: English (IELTS 7.0), Chinese (Native)