

JUNJIE XU

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RESEARCH INTERESTS

Machine Learning, Data Mining, Graph Learning, Geometric Deep Learning, AI for Science

EDUCATION

The Pennsylvania State University, University Park, USA

08/2021 - Present

Ph.D. candidate in Informatics

Advisor: Dr. Suhang Wang & Dr. Xiang Zhang

Huazhong University of Science and Technology, Wuhan, China

09/2017 - 06/2021

B.E. in Software Engineering

GPA: 3.91/4.00

University of California, Berkeley, Berkeley, USA

01/2020 - 06/2020

Exchange student in Computer Science

PUBLICATIONS

Preprints

[1] **Shape-aware Graph Spectral Learning**

Junjie Xu, Enyan Dai, Dongsheng Luo, Xiang Zhang, Suhang Wang

Submitted to ICLR 2024

[2] **A Comprehensive Survey on Trustworthy Graph Neural Networks: Privacy, Robustness, Fairness, and Explainability**

Enyan Dai, Tianxiang Zhao, Huaisheng Zhu, **Junjie Xu**, Zhimeng Guo, Hui Liu, Jiliang Tang, Suhang Wang

Submitted to TIST

[3] **Self-Explainable Graph Neural Networks for Link Prediction**

Huaisheng Zhu, Dongsheng Luo, Xianfeng Tang, **Junjie Xu**, Hui Liu, Suhang Wang

ArXiv preprints

Peer-Reviewed Papers

[4] **HP-GMN: Graph Memory Networks for Heterophilous Graphs**

Junjie Xu, Enyan Dai, Xiang Zhang, Suhang Wang

ICDM 2022, IEEE International Conference on Data Mining

[5] **Revisiting Time Series Outlier Detection: Definitions and Benchmarks**

Kwei-Herng Lai, Daochen Zha, **Junjie Xu**, Yue Zhao, Guanchu Wang, Xia Hu

NIPS 2021, Neural Information Processing Systems, Datasets and Benchmarks Track

[6] **TODS: An Automated Time Series Outlier Detection System**

Kwei-Herng Lai, Daochen Zha, Guanchu Wang, **Junjie Xu**, Yue Zhao, Devesh Kumar, Yile Chen, Purav Zumkhawaka,

Mingyang Wan, Diego Martinez, Xia Hu

AAAI 2021, AAAI Conference on Artificial Intelligence, Demo track

EXPERIENCE

Research Assistant, Penn State University, USA

08/2021 - Present

Graph Neural Networks on Complex Graphs

Advisors: Suhang Wang & Xiang Zhang

Research Assistant, Texas A&M University, USA
Time Series Outlier Detection

05/2020 - 06/2021
Advisor: Xia “Ben” Hu

Research Assistant, HUST, China
Subject Analysis of News Texts

04/2019 - 10/2019

SELECTED PROJECTS

TODS: Automated Time-series Outlier Detection System

[\[Code\]](#) (with 1.1k+ stars, 100+ forks); [\[Website\]](#); [\[Video\]](#).

A full-stack machine learning system with preprocessing, feature extraction, detection, and ensemble algorithms, while automating the process to find optimal module combinations for given data.

SERVICE

Reviewer

The International Conference on Learning Representations (ICLR)	2024
The Learning on Graph Conference (LoG)	2023
Thirty-seventh Conference on Neural Information Processing Systems (NeurIPS)	2023
The IEEE International Conference on Data Mining (ICDM)	2023
The ACM Conference on Knowledge Discovery and Data Mining (KDD)	2023
Thirty-sixth Conference on Neural Information Processing Systems (NeurIPS)	2022
The IEEE International Conference on Data Mining (ICDM)	2022
The ACM Conference on Knowledge Discovery and Data Mining (KDD)	2022
The ACM Web Conference (WWW)	2022
The ACM Transactions on Knowledge Discovery from Data (TKDD)	2022

TEACHING EXPERIENCE

Teaching Assistant , PSU	Fall 2023
DS 305: Algorithmic Methods & Tools	

HONORS & AWARDS

IST Travel Award	IST, PSU, 2022
ICDM Student Travel Award	ICDM, 2022
Graham Endowed Fellowship	PSU, 2021
Mitacs Globalink Research Scholarship	China Scholarship Council, 2020
Scholarship for Academic Excellence	HUST, 2018-2019
Scholarship for Academic Excellence	HUST, 2017-2018

SKILLS

Languages	English (Fluent), Mandarin (Native)
Programming	Python, Java, Matlab, C
Deep Learning	Pytorch, Pytorch Geometric, DGL, Tensorflow