Shuaicheng Zhang

PHD CANDIDATE · COMPUTER SCIENCE DEPARTMENT OF VIRGINIA TECH

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Research Interest

My research interests primarily lie in graph-augmented knowledge and graph-based representation learning, which encompasses a wide domain of applications including: LLM on graphs, AI for finance, deep generative graph models, financial fraud detection, personalized federated learning and relation extraction.

Education

Virginia Tech   *Blacksburg, VA*
PHD CANDIDATE COMPUTER SCIENCE   *August 2020 - present*
• Advisor: Dr. Dawei Zhou

MIT CSAIL   *Cambridge, MA*
VISITING PHD STUDENT   *May 2023 - Aug 2023*
• Advisor: Dr. Julian Shun

University of Maryland, College Park   *College Park, MD*
MS TELECOMMUNICATION ENGINEERING   *August 2018 - May 2020*
• Advisor: Dr. Michael Dellomo

Virginia Tech   *Blacksburg, VA*
BS COMPUTER SCIENCE   *August 2013 - Dec 2017*
• Minors in Mathematics

Industrial Experience

2025   **Research Intern, Microsoft Research**, Redmond, WA, USA

2023   **Research Intern, MIT-IBM lab**, Cambridge, MA, USA

2021   **NLP Research Intern, Nature Language Processing Team**, Deloitte, NY, USA

2017   **Software Development Engineer Intern, Trust Team**, Hundsun Technologies Inc., Hangzhou, China

Preprints & Publications

CAPTAIN: Conformal-Prediction-Based Multi-Source Time-Series Forecasting ——**Shuaicheng Zhang**, Tuo Wang, Stephen Adams, Sanmitra Bhattacharya, Sunil Reddy Tiyyagura, Edward Bowen, Balaji Veeramani, Dawei Zhou. In review of **ICDM**'2025.

PDMBench: A Standardized and Multi-Perspective Benchmark for Predictive Maintenance on Multi-Sensor Industrial Time-Series Data ——**Shuaicheng Zhang**, Tuo Wang, Stephen Adams, Sanmitra Bhattacharya, Sunil Reddy Tiyyagura, Edward Bowen, Balaji Veeramani, Dawei Zhou. In review of **NeurIPs**'2025.

GPatcher: A Simple and Adaptive MLP Model for Alleviating Graph Heterophily ——**Shuaicheng Zhang**, Junhong Ling, Haohui Wang, Xiaojie Guo, Yada Zhu, Si Zhang, Dawei Zhou.(*Equal Contribution) In review of (**NeurIPs**)'2025.

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When Heterophily Meets Heterogeneity: New Graph Benchmarks and Effective Methods ——Junhong Lin, Xiaojie Guo , **Shuaicheng Zhang**, Yada Zhu, Dawei Zhou, Julian Shun. In Preceedings of the ACM **KDD**'2025.

MentorPDM: Learning Data-Driven Curriculum for Multi-Modal Predictive Maintenance ——**Shuaicheng Zhang**, Tuo Wang, Stephen Adams, Sanmitra Bhattacharya, Sunil Reddy Tiyyagura, Edward Bowen, Balaji Veeramani, Dawei Zhou. In Preceedings of the ACM **KDD**'2025.

UnifiedGT: Towards a Universal Framework of Transformers in Large-Scale Graph Learning ——Junhong Lin, Xiaojie Guo , **Shuaicheng Zhang**, Yada Zhu, Dawei Zhou, Julian Shun. In Preceedings of the **IEEE BigData** 2025. Patent Pending.

TGEditor: Task-Guided Graph Editing for Augmenting Temporal Financial Transaction Networks ——**Shuaicheng Zhang**, Yada Zhu, Dawei Zhou. In Proceedings of the ACM International Conference on AI in Finance(**ICAIF**)'2023(**oral**). Patent Pending, Deployed at Wellsfargo.

Personalized Federated Learning under Mixture of Distributions ——Yue Wu*, **Shuaicheng Zhang***, Yanchi Liu, Quanquan Gu, Dawei Zhou, Haifeng Chen, Wei Cheng. (*Equal Contribution) In Proceedings of International Conference on Machine Learning(**ICML**)'2023.

Extracting Temporal Event Relation with Syntax-guided Graph Transformer ——**Shuaicheng Zhang**, Ning Qiang, Lifu Huang. In Findings of North American Chapter of the Association for Computational Linguistics(**NAACL**)'2022.

Awards & Honors

2025	**KDD Outstanding Reviewer (Top 10%)**, KDD 2025
2024	**CCI SWVA Cyber Innovation Scholars**, Commonwealth Cyber Initiative (CCI) Southwest Virginia
2023	**CCI SWVA Cyber Innovation Scholars**, Commonwealth Cyber Initiative (CCI) Southwest Virginia
2022	**CIKM Travel Award**, CIKM 2022
2021	**Virginia Tech Pratt Fellowship**, Virginia Tech Department of Computer Science

Academic Service

Conference Reviewer

2025	**KDD 2025, ICML 2025, ICLR 2025**, Reviewer
2024	**KDD 2024, ICML 2024**, Reviewer
2023	**KDD 2023, ICDM 2023, WWW 2023**, Reviewer
2022	**SIGIR 2022, KDD 2022, NLPCC 2022, WWW 2023**, Reviewer
2021	**SDM 2022, WWW 2022, CIKM 2022**, Subreviewer
2021	**NLPCC 2021**, Reviewer

Organizing committee

2022	**The 1st Workshop on Trustworthy Learning on Graphs (TrustLOG) at The Conference on Information and Knowledge Management (CIKM)'2022**, Publicity Chair	*Atlanta*

Skills

STATISTICS Advanced statistical analysis, inference, factor, regression analyses, hypothesis testing, hierarchical modeling

MACHINE LEARNING AND DEEP LEARNING TensorFlow, Keras, Pytorch, Scikit-Learn, XGBoost, Pandas, Numpy, Scipy, NLTK, NetworkX

PROGRAMMING Python, Java, C, Matlab, Shell, MySQL, HTML

BASICS Linux, Git, LaTex, Docker

Teaching Experience

Spring 22	**CS 5984 Computational Social Science**, Teaching Assistant
Fall 21	**CS 5984 Natural Language Processing**, Teaching Assistant
Spring 21	**CS 2505 Computer Architecture I**, Teaching Assistant
Fall 20	**CS 3214 Operating System**, Teaching Assistant