

Shuai Zhang

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Last updated: July 15, 2025

Education

Academy of Mathematics and Systems Science, Chinese Academy of Sciences

Beijing, China

Ph.D. in Probability and Mathematical Statistics

Sep. 2021 – present

- GPA: 3.84/4
- Advisor: Chuan Zhou
- Research Direction: Temporal Point Processes, Neural SDEs, Hypothesis Testing, Conformal Prediction

Shandong University

Shandong, China

B.S. in Mathematics and Applied Mathematics (Hua Loo-Keng Class)

Sep. 2017 – Jun. 2021

- GPA: 4.63/5; 92.21/100 (Top 2 out of 36 students)
- Advisor: Guanghui Wang
- Research Direction: Spectral Graph Theory, Graph Mining, Graph Neural Networks

Research Description

I am interested in developing probabilistic and statistical machine learning methods to solve scientific problems, with a focus on temporal point processes, neural SDEs, multiple hypothesis testing, and graph neural networks. My previous main works are as follows:

- **Conformal Anomaly Detection for Event Sequences:** Proposed a statistical guaranteed method for anomaly detection in continuous-time event data using conformal prediction. Published at ICML 2025.
- **Stochastic Differential Equations for Temporal Point Processes:** Proposed a novel approach for modeling TPPs by formulating their intensity process as the solution to an SDE. Published at ICML 2024 (Spotlight Presentation).
- **Multiple Hypothesis Testing for Anomaly Detection:** Proposed an anomaly detection method for continuous-time event data by integrating multiple hypothesis testing with neural TPPs. Published at ICDM 2023.

Publications

- [1] **Conformal Anomaly Detection in Event Sequences**
Shuai Zhang, Chuan Zhou, Yang Liu, Peng Zhang, Xixun Lin, and Shirui Pan.
International Conference on Machine Learning (ICML) 2025
- [2] **Sharpness-aware Zeroth-order Optimization for Graph Transformers**
Yang Liu, Chuan Zhou, Yuhan Lin, Shuai Zhang, Yang Gao, Zhao Li, and Shirui Pan.
International Joint Conference on Artificial Intelligence (IJCAI) 2025
- [3] **Conformal Graph-level Out-of-distribution Detection with Adaptive Data Augmentation**
Xixun Lin, Yanan Cao, Nan Sun, Lixin Zou, Chuan Zhou, Peng Zhang, Shuai Zhang, Ge Zhang, and Jia Wu.
International World Wide Web Conference (WWW) 2025
- [4] **Neural Jump-Diffusion Temporal Point Processes**
Shuai Zhang, Chuan Zhou, Yang Liu, Peng Zhang, Xixun Lin, and Zhi-Ming Ma.
*International Conference on Machine Learning (ICML) 2024, **Spotlight Presentation (3.5%)***
- [5] **CL4CO: A Curriculum Training Framework for Graph-Based Neural Combinatorial Optimization**
Yang Liu, Chuan Zhou, Peng Zhang, Zhao Li, Shuai Zhang, Xixun Lin, and Xindong Wu.
International Conference on Data Mining (ICDM) 2024
- [6] **Multiple Hypothesis Testing for Anomaly Detection in Multi-type Event Sequences**
Shuai Zhang, Chuan Zhou, Peng Zhang, Yang Liu, Zhao Li, and Hongyang Chen.
International Conference on Data Mining (ICDM) 2023
- [7] **Decision-focused Graph Neural Networks for Graph Learning and Optimization**
Yang Liu, Chuan Zhou, Peng Zhang, Shuai Zhang, Xiaoou Zhang, Zhao Li, and Hongyang Chen.
International Conference on Data Mining (ICDM) 2023

Honors & Awards

Merit Student of University of Chinese Academy of Sciences	Apr. 2024
Outstanding Undergraduates Graduates of Shandong	May 2021
Chinese National Scholarship (Top 1%)	Dec. 2020
First Prize, Chinese High School Mathematics League, Shandong Division	Sep. 2016

Academic Service

Conference Reviewer: International Conference on Machine Learning (ICML), Neural Information Processing Systems (NeurIPS), International Conference on Learning Representations (ICLR)

Skills

Programming Languages: Python, MATLAB, \LaTeX