XIAOHUI ZHAO

Nanjing, China · 210096

(+86) 182-6325-0826 · zxh991103@gmail.com

CURRENT RESEARCH INTEREST

Cyber-Physical Systems, Data Science and Artificial Intelligence

EDUCATION

Southeast University *Sept. 2021 – Jun. 2024*
Master of Engineering in Cyber Science *Nanjing, China*

- Intelligence Internet of Things Lab, School of Cyber Science and Engineering
- Supervisor: Prof. Tian He, Prof. Shuai Wang
- Research Fields: Finding meaning patterns from large-scale data based on data-driven modeling, and designing useful spatio-temporal algorithms to address some real-world societal challenges.
- Average Score: 88.62/100

Shandong University *Sept. 2017 - Jun. 2021*
Bachelor of Engineering in Computer Science *Qingdao, China*

- Elite Class of Data Science, School of Computer Science and Technology
- Relevant Coursework: Pattern Recognition, Information Retrieval and Data Mining, Big Data Management and Analysis, Numerical Computation, Data Structures and Algorithms.
- Average Score: 89.22/100

PUBLICATIONS

[1] ***Xiaohui Zhao***, Shuai Wang*, Hai Wang, Tian He, Desheng Zhang, Guang Wang. "HST-GT: Heterogeneous Spatial-Temporal Graph Transformer for Delivery Time Estimation in Warehouse-Distribution Integration E-Commerce", The 32nd ACM International Conference on Information and Knowledge Management (**CIKM'23**).

[2] Cao Zhang, ***Xiaohui Zhao****, Ziyi Zhou, Xingyuan Liang, Shuai Wang. "DoseFormer: Dynamic Graph Transformer for Postoperative Pain Prediction", Electronics, 2023.

[3] Shuai Wang, Hai Wang, Li Lin, ***Xiaohui Zhao***, Tian He, Dian Shen, Wei Xi. "HPST-GT: Full-link Delivery Time Estimation via Heterogeneous Periodic Spatial-Temporal Graph Transformer", IEEE Transactions on Knowledge and Data Engineering (TKDE), 2024, Under Review (Minor Revision).

[4] Hai Wang, Xiaolei Zhou, Shuai Wang, ***Xiaohui Zhao***, Xianjun Deng, Wei Gong. "Fed-HGT: Full-link Delivery Time Estimation via Federated Heterogeneous Graph Transformer", IEEE Internet of Things Journal (IOT), 2024, Under Review (Major Revision).

* corresponding author

RESEARCH EXPERIENCE

Spatial-Temporal Graph Learning for Delivery Time Estimation in Warehouse-Distribution Integration E-Commerce *Sept. 2021 – Jun. 2024*

- Design the Heterogeneous Spatial-Temporal Graph Transformer (HST-GT) model for delivery time estimation, introduce a specific spatial-temporal attention mechanism to capture the heterogeneity of delivery units.
- Develop the Heterogeneous Periodic Spatial-Temporal Graph Transformer (HPST-GT) model, explore the temporal periodicity of delivery units, and construct a targeted Skip-GRU module to capture this pattern.
- A paper is accepted by ***CIKM'23*** **for oral presentation** as the **first author**, and an extended version of the paper is submmitted to the *TKDE* journal as the fourth author and received a minor revision (the first three authors are faculty members).

Full-link Delivery Time Secure Prediction via Federated Heterogeneous Graph Transformer *Jan. 2023 – Jun. 2024*

- Design the Federated Heterogeneous Graph Transformer (Fed-HGT) model to securely predict full-link delivery time in general full-link logistics scenarios.
- Develop a local training framework for heterogeneous node models, and a federated training framework for centralized heterogeneous spatial-temporal graph model to implement gradient aggregation under the premise of data protection of logistics nodes.
- A paper is submitted to the *IOT* journal as the fourth author and received a major revision (the first three authors are faculty members).

DoseFormer: Dynamic Graph Transformer for Postoperative Pain Prediction *Sept. 2021 - Aug. 2023*

- Design a dynamic graph transformer framework to predict postoperative pain.
- Develop a static-dynamic feature fusion module, a special graph transformer network, and evaluate the model with real-world data.
- A paper is published by *Electronics* journal as the corresponding and second author (the first author is an anesthesiologist from the affiliated hospital of Zhejiang University).

EMPLOYMENT

Bytedance *Jan. 2021 - May 2021*
Data Mining Intern *Shanghai, China*

- User Trademark Recognition of Tiktok: Fine-tune the MacBert pre-trained parameters and develop a Bi-LSTM model to analyze the commercial attributes and trademarks of user nicknames in Tiktok.
- Multi-Platform User Profile Fusion: Implement the generalization of user profile tags across Tiktok, Xigua Video, Huoshan Video, and Toutiao, and construct a pipeline for real-time fusion of user profiles.
- User Relation Prediction: Utilize the sequence of Wi-Fi networks connected by users to predict relationships between users.

PROFESSIONAL SERVICES

SN Computer Science *2023*
Reviewer *Remotely*

· Data Mining Articles Reviewer.

TEACHING

Shandong University *Sept. 2019 - Jan. 2021*
Teaching Assistant *Qingdao, China*

· Data Structure and Algorithm (Fall 2019, 2020).
· Lead a group of teaching assistants in building an automatic online judge platform for data structure course called DS-Judge, which has then been used by the whole school.

SKILLS

Programming Languages: Python, Java, Scala, C/C++
Software (Programming Models): PyTorch, Tensorflow, Keras, Hadoop, Spark, Hive
Language: Chinese (Native), English (Fluent)

RECENT AWARDS (SINCE 2018)

Academic Innovation Award, Southeast University *2023*
Outstanding Graduate Cadre, Southeast University *2022*
Graduate Scholarship, Southeast University *2022, 2021*
National Third Award, Graduate Mathematical Modeling Competition *2021*
Scholarship for Social Service Excellence, Shandong University *2020*
Outstanding Student Cadre, Shandong University *2020, 2019*
Provincial Second Award, National Mathematical Modeling Competition *2019*
University Scholarship, Shandong University *2019*
Scholarship for Academic Excellence, Shandong University *2018*