

Wenxuan Zeng (Junior Student)

Website: <https://xuanland.cn>

Google Scholar: <https://scholar.google.com/citations?user=P1c6nDYAAAAAJ&hl=zh-CN>

Research Interests: Efficient Deep Learning, Data Mining, Natural Language Processing, Graph Neural Networks, Computer Vision

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EDUCATION

- **University of Electronic Science and Technology of China (UESTC)** *Chengdu, China*
B.S., School of Software Engineering. GPA: 3.9/4.0 (89.06/100) *September 2019 - June 2023*
 - ▷ Vice Chairman and Machine Learning Leader of School Technology Studio
 - ▷ Related Courses: Database Principles and Applications (97), Big Data and Intelligent Computing (95), Data Structure (94), Probability and Statistics (94), Programming Language (93), Computer Networks (92), Operating System (92), Andrew Ng Deep Learning, Machine Learning, CS224w, CS231n

SCIENTIFIC EXPERIENCE

- **Knowledge Works Research Laboratory, Fudan University** *April, 2022 - July, 2022*
Advisor: Prof. Yanghua Xiao
 - Studied factuality and faithfulness in Natural Language Generation (NLG), including fact verification, factual error correction, inference-time factual text generation (e.g., decoding algorithm and sampling-based text generation) and factual generation applications.
 - The learning field involves a part of explainable artificial intelligence (XAI), including causal inference, computer vision and natural language processing.
- **Sichuan Key Laboratory of Network and Data Security, UESTC** *June, 2021 - June, 2022*
Advisor: Prof. Fan Zhou
 - Research1: Studied Graph Neural Networks (GNNs) especially Graph Structure Learning, and Street-Level IP Geolocation. **One of my papers has been accepted in KDD 2022 (CCF-A) International Top Conference (2021.6-2022.2).**
In this paper, we propose a novel framework named GraphGeo, which provides a complete processing methodology for street-level IP geolocation with the application of graph neural networks. It incorporates IP hosts knowledge and kinds of neighborhoods relationships into the graph to infer spatial topologies for high-quality geolocation prediction. We explicitly consider and alleviate the negative impact of uncertainty caused by network jitter and congestion, which are pervasive in complicated network environments. Moreover, the proposed framework has been deployed on the web platform in Aiwen Tech as an online service for 6 months.
 - Research2: Conducting research in the direction of Multivariate Time Series (MTS), designing a novel graph learning model to model multivariate relationships, planning to submit to TKDE or ICDE (2022.2-present).
- **Communication and Information Security Laboratory, Peking University** *August, 2021 - May, 2022*
Advisor: Prof. Yuesheng Zhu
 - In collaboration with a Phd in Peking University, we plan to submit a paper to IEEE Transactions on Information Forensics and Security (TIFS) CCF-A journal (work in progress).
 - In this paper, in order to improve the accuracy of iris recognition, fine-grained image recognition algorithms are investigated. We incorporate the localization information extracted by image segmentation networks, and introduce a learnable and dynamic loss function. Lightweight neural network architecture is used to compress the model, and we ensure the security and integrity of the model in a trusted execution environment (TEE).

MAIN PROJECTS

- **Development of Intelligent Child Monitoring System** *September, 2020 - December, 2021*
 - ▷ Algorithm Module Leader
 - Built a child home intelligence monitoring system based on objection detection and pose estimation algorithm and Raspberry Pi to achieve real-time window climbing action detection, smoke alarm and so on.
 - Collected and processed the dataset, and trained the objection detection and pose estimation models with deformable convolution kernel. Then compressed the model via knowledge distillation to improve the results in real-world scenarios.
 - Deployed the model on Raspberry Pi and conducted complete tests, and subsequently work with school to expand the system into a landable product.
- **Machine Learning Project at Qi-ANXIN Technology Inc.** *August, 2021 - March, 2022*
 - ▷ General Leader

- Designed experiments for training machine learning algorithms on cyber-security datasets, and organized about 15 members to write standard documentation on the principles of machine learning algorithms and experimental procedures.
 - Deployed cyber-security datasets and machine learning models on QI-ANXIN Inc. platform for users to perform data analysis. Moreover, the platform will be applied to machine learning courses in some universities.
- **Big Data Analysis for Airline Delays and Cancellations** *October, 2021 - December, 2021*
 - ▷ Algorithm Design and Data Visualization
 - Configured three server clusters (4-core 16G for master node and 4-core 8G×2 for slave nodes), and applied Spark, the big data computing engine on Hadoop platform to achieve the analysis of 120 million data. Finally, the trained machine learning models were used to predict the future flight cancellations.
- **Development of School Studio Recruiting Platform** *March, 2020 - August, 2020*
 - ▷ Backend Development (Programming Language: Golang)
 - Built a fully-functional studio recruitment website. The platform has been used by hundreds of people and has been promoted by the school studio and the college.
 - Used Gin as the network programming framework, MySQL as the backend database, and Redis as the authentication buffer. Built the data interfaces for both users and administrators based on TCP/IP protocol, respectively.

HONORS AND AWARDS

- UESTC Outstanding Student Scholarship for the 2019-2020 academic year - *December, 2020*
- UESTC Outstanding Student Scholarship for the 2020-2021 academic year - *December, 2021*
- Candidate for National Scholarship for the 2020-2021 academic year (**top 3%**) - *December, 2021*
- “Shi Qiang” Scholarship First Prize for the 2020-2021 academic year (**only 5 places for UESTC**) - *December, 2021*

COMPETITION AWARDS

- “China Collegiate Computing Contest”, **National First Prize (the 1st Place of Undergraduate Group)** - *October, 2021*
- 2021 “Pan-Pearl River Delta Student Computer Work Competition”, **National Third Prize** - *March, 2022*
- “Zhong Gong Cup” Sichuan Collegiate Computer Work Competition, **Provincial Special Prize** - *June, 2021*
- Chinese Collegiate Computer Design Competition, **Provincial First Prize** - *May, 2022*
- Sichuan University Student Computer Work Competition, **Provincial Second Prize** - *June, 2022*
- “China Student Service Outsourcing Innovation and Entrepreneurship Competition”, **Third Prize in Western Region of China** - *June, 2021*

SKILLS

- **Languages:** Python (PyTorch for Neural Networks), C, C++, SQL, Java, Golang
- **Platforms:** Linux, Windows, WSL (Windows Subsystem for Linux), Alibaba Cloud
- **Techniques:** Data Analysis, Backend Development, System Architecture Design, Software Testing
- **Soft Skills:** Leadership, Speaking, Visio Drawing, Writing (have published 230+ blogs with 20w reads, link: https://blog.csdn.net/qq_16763983)
- **Life:** Sports (Basketball, Running, Table tennis, Badminton), Handwriting (both Chinese and English), Rubik’s Cube, Musical Performance (especially guitar)
- **Overall:** Ability to learn new knowledge quickly, actively communicate with the team, strong organizational and leadership skills and ability to solve complex engineering problems.

PUBLICATIONS

Note: * denotes co-author and † denotes corresponding author.

- Zhiyuan Wang*, Fan Zhou*†, Wenxuan Zeng*, Goce Trajcevski, Chunjing Xiao, Yong Wang, Kai Chen, “Connecting the Hosts: Street-Level IP Geolocation with Graph Neural Networks”, ACM SIGKDD Conference on Knowledge Discovery and Data Mining (**KDD**), **2022 (CCF-A), Co-First Author**