Bowen Zhang

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Education

South China University of Technology **Sep 2021 – Jun 2025**
Bachelor of Software Engineering, GPA:3.84/4.0 (90.32/100.0, Excellent Engineer Class) *Guangzhou*

Relevant Coursework

- Mathematical Analysis
- Linear Algebra
- Machine Learning
- Deep Learning
- Discrete Mathematics
- Data Structures
- Data Mining
- Database System

Experience

Machine Learning and Data Mining Lab (advised by Qianli Ma) **Oct 2023 – Present**
Research Intern *School of Computer Science, SCUT*

- Mainly focused on research in data mining and time series modeling, especially time series forecasting and classification.
- Recently researched on Mixture-of-Experts and multi-scale modeling, and applied them to time series analysis problems. This paper will be submitted to International Conference on Learning Representations (ICLR).
- Understood graph learning and spatio-temporal data mining, including graph neural network, GCN, GAT, etc.

CityMind Lab (advised by Yuxuan Liang) **May 2024 – Present**
Research Intern *Hong Kong University of Science and Technology (Guangzhou)*

- Researched on time-series analysis and spatio-temporal data mining, especially foundation models.

Key Laboratory of Big Data and Intelligent Robot (advised by Yi Cai) **Mar 2023 – Present**
Research Intern *School of Software Engineering, SCUT*

- Researched on natural language processing and LLM, engaged in practical research on models, ChatGLM, etc.
- Finished the project "WiseSight: AIGC-based Smart Glasses for Elderly Life Assistance". This project has won the First Prize of National College Students' Software Innovation Competition (South China) and National Second Prize.
- Researched on LLM hallucination and RAG technology, developing the project "Natural Language Content Matching System Based on LLM". Responsible for work on search engine augmentation.

Projects

WiseSight: AIGC-based Smart Glasses for Elderly Life Assistance | *Python* **Oct 2023 – Present**

- Aimed at elders and adopted a Client-Server architecture, using ChatGLM as LM base and fine-tuning.
- It performed Intelligent Interaction, Assisted Reading, Item Searching and Emergency Assistance function modules.
- Developed object recognition and scenario recognition for Item Searching, utilizing object detection models, like detic.
- Wrote innovative project documents, software development documents, and software testing documents.

Beyond Guessing: Data-Driven Exploration of Word Features and Relationships| *Python, LaTeX* **Feb 2023**

- Used ARIMA model to solve problems related to time-series analysis, determined ACF & PACF values and forecasted.
- Used the K-means clustering method to determine the difficulty level of the problem, TOPSIS entropy weight analysis.
- Utilized SPSS and Matlab for data preprocessing, analysis and visualization. Proficient in using LaTeX to write paper.
- This paper received Finalist (Top 0.17%) in Mathematical Contest In Modeling. **[Paper Link]**

Technical Skills

Programming Languages/Software: Python, C++, Java, Matlab, LaTeX, PyTorch, SQL, Linux
English Level: CET6: 512, CET4: 567

Honors and Awards

- **National Scholarship** (rank: 1/49) 2022
- **Top Ten Excellent Student Models of SCUT** (The best honor for undergraduates in SCUT) 2023
- Top Ten Excellent Communist Party Members Nomination Award of SCUT 2024
- First Prize Scholarship of South China University of Technology (rank: 2/49) 2023
- **Finalist** of Mathematical Contest In Modeling (MCM, Top 0.17%) 2023
- First Prize of Chinese Mathematics Competitions (CMC) 2022 and 2023 (twice)
- Gold Prize of National College Student Algorithm Design and Programming Challenge 2023
- First Prize of Guangdong Province College Student Computer Innovation Competition 2024
- Second Prize of MathorCup College Mathematical Modeling Challenge 2023

Leadership / Extracurricular

Monitor of class **Sep 2022 – Present**

South China University of Technology

- Led class to receive Top Ten Excellent Classes Nomination Award of South China University of Technology in 2023.
- Talented in Mathematical Analysis (Score: 98, rank: 1/124), received Excellent Auxiliary Volunteer.