Xing Xie

Contact Information

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Research Interests

I am generally interested in computer vision and machine learning. My recent focus is on **Multimodal Large Language Model** and **enerative Model**.

I enjoy exploring the unknown and excel in the practical application of technical skills. Beyond academia, I have a deep appreciation for open-source software and the collaborative spirit it fosters.

Education

Southeast University, School of Artificial Intelligence, Nanjing, China
Bachelor of Artificial Intelligence, June, 2026(expected)

- Advisor : Prof. Guilin Qi and Prof. Hui Xue
- CCF Student Member

Publications

Xing Xie, Yu Wang, Hao Liang, Chenyang Lou, Bingtuan Gao. An Efficient Bird Detection Method for Substation Inspection via Improved YOLOv5. In *Proceedings of IEEE International Conference on Cyber Technology in Automation, Control, and Intelligent Systems* (CYBER), 2024. (**Finalist of Best Poster Award**)

Research experience

A Unified Table Reasoning Framework **February, 2025 — Present**

- Proposed a multi-stage training paradigm for table reasoning , integrating layout transformation via self-supervised toolchain learning and semantic comprehension through header localization, enabling LLMs to robustly handle diverse table structures and reduce noise interference.
- Designed a novel training strategy for hybrid table QA , classifying reasoning types (e.g., numerical calculation, aggregation) and preparing golden toolchain labels, aiming to optimize task-specific performance via dynamic LoRA composition and expert balancing in Mixture-of-Experts frameworks.
- It is anticipated that the project will result in the production of a paper at NeurIPS 2025.

Leveraging Graph Neural Retrieval-Augmented Generationfor OpenTable-Text Hybrid QA **October, 2024 - Present**

- This project is advised by Prof. Dr. Guilin Qi.
- The project aims to enhance the performance of open table-text hybrid QA by utilizing graph neural networks ;
- Expected outcomes include the publication of one research paper, the acceptance of one patent, and the development of a TableRAG system.

Research on Intelligent Bird Detection and Repelling Technology for Substations Using Audio-Visual Integration **April, 2024 - Present**

- The primary objective of this project is to develop an integrated audio-visual bird-repelling device, leveraging deep learning and other advanced technologies ;
- The project aims to create a comprehensive intelligent system designed to effectively detect and repel birds in substation environments.

Intelligent Bird Recognition Technology for Substations Using Deep Learning **April, 2024 - April, 2025**

- Authored a paper published in *IEEE-CYBER 2024* and was recognized as **finalist of best poster award** ;
- Pioneered the design of an enhanced, efficient, and lightweight bird detection model using advanced deep learning techniques, achieving an **excellent** rating in the final project evaluation.

Selected Open-Source Projects

- **GitHub :** kaicheng001 (15 followers)
- **TikZ-Collection** (TikZ Collection for creating high-quality LaTeX graphics) GitHub
- **RAG-Collection** (Collection of RAG-related papers based on my research) GitHub
- **CG-NeRF2Mesh** (Project page of my CG assignment) GitHub project page

Note : It is anticipated that a greater number of interesting projects will be made available to the public in the future.

Honors and Awards

- Provincial Third Prize, 6th Global Campus Intelligent Algorithm Elite Competition, 2024
- Three Good Students Award, Southeast University, 2024
- Finalist of Best Poster Award, *IEEE-CYBER 2024* in Copenhagen, Danmark, 2024
- First Prize (Top 1%), 15th National College Students Mathematics Competition, 2024
- Outstanding Communist Youth League Member, Southeast University, 2023
- First Prize (Top 1%), 20th Jiangsu Provincial College Student Mathematics Competition, 2023

Scholarships And Grants

- Jiangsu Provincial University Student Innovation Training Program (project leader), ¥8,000; 2024-2025
- Southeast University Competition Scholarship for Two Consecutive Years, ¥800; 2023-2024

Services

- Participated in three social practice projects, rated as **excellent** 2022 - 2024
- Member of Southeast University Student Science and Technology Association 2022 - 2023

Skills

Programming : Python, C/C++, MATLAB, JavaScript
Misc : PyTorch, Tensorflow, LaTeX, Markdown
OS : LINUX, macOS, Windows