

Guangyi Liu

Political Status: CPC Member

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Education

- **Zhejiang University(ZJU)** *Electronic Information · Master Candidate* 06/2023 – 03/2026
 - Research Focus: **GUI Automation Agents Powered by Large Language Models**
 - Honors: Excellent Graduate Student of Zhejiang University, Excellent Student Cadre of Zhejiang University
- **China University of Mining and Technology(CUMT)** *Automatic Control · Bachelor* 09/2019 – 06/2023
 - Overall Ranking: **No.1/203** GPA Ranking: 88.25/100 (No.13/203) CET-6: 484 (CET-4: 552) [News Link](#)
 - Honors: 2020 and 2021 **National Scholarship**, **Campus Person of the Year** (8 students/year, university-wide)
 - Major Courses: Automatic Control(96), Python Programming(99), C++ Programming (97), Fundamentals of Artificial Intelligence (94), Engineering Mathematics (98),Intelligent Optimization and Control(94)

Selected Research Achievements

- **LLM-Powered GUI Agents in Phone Automation: Surveying Progress and Prospects** *First Author*
 - Under review at **IEEE Transactions on Pattern Analysis and Machine Intelligence(CCF-A)** | [Link](#) | [机器之心](#)
 - The **first comprehensive review of Phone GUI Agents(47 pages)** , covering frameworks, models, datasets, and evaluation methods, and providing forward-looking insights into existing challenges and future directions.
- **Dataset Distillation-based Hybrid Federated Learning on Non-IID Data** *Student Second Author*
 - Under review at **IEEE Transactions on Mobile Computing (CCF-A)** | [Link](#)
- **Efficient HW/SW Co-Design of FPGA Accelerator to Detect Anomaly Attacks** *Student Second Author*
 - Accepted by **2024 IEEE 33rd International Symposium on Industrial Electronics(CAA-A)** | [Link](#)
 - Proposed an FPGA-based accelerator with an efficient hardware/software co-design to tackle latency and energy challenges of deep learning models for anomaly attack detection in smart grids.
- **Patent: SCADA Data Imputation Method, Device, Equipment, and Medium** *Student First Author* [Link](#)
- **Patent: A Miner Violation Warning System for Crossing Conveyor Belts** *First Inventor* [Link](#)
- **Patent: A Multifunctional Underground Safety Inspection System** *First Inventor* [Link](#)
- **Software Copyright: Miner Violation Alarm System Based on Skeletal Information** *First Contributor*

Internship Experience

- **vivo AI Lab** *PhoneGPT Pre-Research* *Advisor: [Hongsheng Li](#) & [Liang Liu](#)* 05/2024 – 01/2025
 - Built **few-shot learning** datasets and benchmarks for *Phone GUI Agent*, contributed to a **general online evaluation framework** for GUI Agents, and explored privacy-preserving methods based on federated learning.
 - Conducted UI Tree data cleaning; construct instruction dataset and performed LoRA-based supervised fine-tuning on general multimodal LLMs to enhance the **global planning capability** of GUI Agents. Relevant modules have been deployed in the vivo PhoneGPT **Coffee-Ordering Agent**, achieving a task completion rate of **90%+**.

- TruthAI Company Jinshu Nuclear Industry Large Model R&D**
01/2024 – 05/2024
 - Took charge of training 3 AI plug-ins related to *nuclear-industry feedback*, successfully deployed on the *Yunzhong Jinshu* platform for nuclear industry LLMs. Leveraged multi-label and multi-classification nuclear-industry data provided by *Ningde Nuclear Power* to **fine-tune BERT**, achieved an **F1-score of 0.96**.
- Wolong Holding Group Co., Ltd. Low-Code Algorithm Platform**
07/2023 – 09/2023
 - Developed custom operators in a low-code algorithm platform for data preprocessing, feature engineering, machine learning, and deep learning. Implemented online monitoring and remote diagnostics for industrial equipment, using these operators for real-time machinery status monitoring.

Research Projects

- National Key R&D Program Sub-Project Fed Method with Dataset Distillation**
05/2023 – 01/2024
 - Addressed **heterogeneity in non-IID data** by proposing **HFLDD**. Experiments on **MNIST** and **CIFAR-10** showed significantly improved accuracy under the most severe non-IID conditions, with up to a **10-fold reduction in communication cost** compared to FedAvg and FedSeq.
- University Outstanding Thesis Reconfigurable Data Acquisition System**
09/2022 – 05/2023
 - Developed a **QT-based system reconfiguration application** and a **field configuration tool** (UART-HMI) and completed on-site deployment at Zhejiang Wuxing Electric Power Engineering Co., Ltd.
- National Innovation Project System for Diagnosing Miners Irregular Operations**
10/2020 – 05/2023
 - Developed hardware for **human behavior data collection**, performed rapid **data acquisition** and **feature engineering**, optimized algorithms, and built a *miner-violation diagnostic system* in QT.
 - Applied for 3 invention patents, 4 utility model patents, and 7 software copyrights. The project earned five provincial/ministerial honors, including the Jiangsu Provincial *Challenge Cup* second prize.

Selected Honors & Awards

- China International *Internet+* Innovation and Entrepreneurship Competition –Silver Medal**
01/2024
- 2023 *Huawei Cup* China Postgraduate Mathematical Contest in Modeling –Second Prize**
11/2023
- 2021 and 2022 Mathematical Contest in Modeling (USA) –Honorable Mention**
05/2021
- 17th National University Student Transportation Technology Competition –Second Prize**
07/2022
- 2021 *China Telecom Scholarship* · *Fly Young Award* *1 student at the entire university***
06/2022
- 13th *Challenge Cup* Entrepreneurship Plan Competition in Jiangsu –Silver Award**
05/2022
- 18th May Day Mathematical Modeling Contest –First Prize**
05/2021
- 5th *Youth May 4th Medal* of China University of Mining and Technology *10 students/year***
05/2022
- Xiaomi Special Scholarship, China University of Mining and Technology *10 students/year***
09/2022
- Outstanding Student CPC Member, China University of Mining and Technology**
06/2022

Personality Traits

- Strong Sense of Collective Responsibility:** Served as Deputy Secretary (Student) of the University Youth League Committee, Head of Student Party Station, Chair Group Member of College Postgraduate Student Association, and Class Monitor. Awarded as **Jiangsu Province Outstanding Student Cadre**.
- Excellent Communication Skills:** Delivered speeches multiple times as an **Excellent Student Representative** during award ceremonies and opening ceremonies.