Zhongze LUO

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Education

Northeast Forestry University, Harbin, China (**Project 211**) *2021.09—2025.06*

B.Eng of Communication Engineering *GPA: 88.08/100 Ranking: 14/73 (Top 20%)*

Projects

Elderly Fall Alarm System Based on Raspberry PI and OpenCV *2022.12—2024.05*

National Undergraduate Innovation Training Program Project

- As the project leader, I was responsible for organizing the proposal defense, writing the report, coordinating the progress, and supervising the major project tasks.
- The project used YOLOv5 to train the open source autumn data set, and compared different attention mechanisms to improve the model, and good results were achieved in the ablation experiment.
- The project also used Raspberry PI and Jeston Orin Nano as the model transplant carrier, connects the camera module and the communication module, and realizes the automatic trigger alarm function when the elderly fall.

Papers

IJCNN 2025 [link] **ForPKG: A Framework for Constructing Forestry Policy Knowledge Graph and Application Analysis.** *Second (Corresponding) Author*

COLING 2025 Oral [link] **A Compliance Checking Framework Based on Retrieval Augmented Generation.** *Second Author*

Journal of Real-Time Image Processing. [link] **HGO-YOLO: Advancing Anomaly Behavior Detection with Hierarchical Features and Lightweight Optimized Detection.** *Second Author*

Information Technology and Control. [link] **Elderly Fall Detection Algorithm Based on Improved YOLOv5s.** *First Author*

Under Review [link] **KG2QA: Knowledge Graph-enhanced Retrieval-Augmented Generation for Communication Standards Question Answering.** *First Author*

Under Review [link] **LawLuo: A Multi-Agent Collaborative Framework for Multi-Round Chinese Legal Consultation.** *Third Author*

Internship

CUHKSZ T-Lab [link] *2024.07—2025.01*

As a visiting student, I joined the laboratory of the School of Science and Engineering (SSE) at the Chinese University of Hong Kong (Shenzhen) to study and conduct research in the direction of multimodal large models. I also carried out work in the direction of the evaluation of the chain of thought of large models, and constructed a multi-modal evaluation benchmark for physics problems.

BYD Company Limited [link] *2024.01—2025.03*

As a hardware intern, I learned to weld small capacitors, resistors and other components, including 0201MLCC, and MCU. I also learned hardware circuit knowledge, including DC-DC power supply, EMC protection, ADI power supply design, mastered the real vehicle measurement method, participated in the oscilloscope test of vehicle rear domain control circuit board, recorded steady state, shock, stall current, input waveform no-action voltage and action voltage.

Skills

Research interests include Knowledge Graph, Multimodal Large Language Models, LLM reasoning and evaluation.

Familiar with python programming, and the training process and model deployment of deep learning models.

Familiar with the use of Altium Designer and other PCB design software, also familiar with Linux operating systems.

IELTS Academic: 6.5(6) Listening 7 Reading 7.5 Writing 6 Speaking 6.

Honors

Outstanding Undergraduate Graduation Thesis of Northeast Forestry University (3%) *2025.06*

China College Student Computer Design Competition - Third Prize *2024.08*

National College Students Mathematical Contest in Modeling - Provincial First Prize *2022.11*

University scholarship - First Prize *2022.03*