Kaiyu Zhang

pandium@whu.edu.cn

EDUCATION BACKGROUND

PhD. School of Water Resources and Hydropower Engineering, Wuhan University 2026.9–Now

Supervisor: Prof. Jiyun Song

B.Eng. School of Water Resources and Hydropower Engineering, Wuhan University 2022.9–2026.6

Supervisor: Prof. Jiyun Song

GPA:3.52/4.0

B.Eng. (Minor) School of Computer Science, Wuhan University 2024.3–2026.6

Supervisor: Prof. Feng Liu

GPA:3.53/4.0

RESEARCH INTERESTS

- Mobile Mapping, Urban Meteorology, Carbon Emissions and Carbon Neutrality
- Spatiotemporal Data Analysis and Machine Learning
- Environmental Sensing and Intelligent Control

RESEARCH PROJECTS

Undergraduate Thesis: "Spatiotemporal Evolution of Road Carbon Emissions in Wuhan Based on Mobile Observations and Machine Learning" Advised by Prof. Jiyun Song | 2026

- Developed a Stacking ensemble model for high-resolution mapping of road CO_2 concentrations in Wuhan using multi-source mobile observations.
- Revealed spatiotemporal hotspots (river-crossing corridors, commercial belts) and nonlinear drivers (time rhythm, temperature threshold at 28°C) via SHAP/PDP analysis.

Minor Thesis:"Design and Implementation of a Supervision Log Generation System in Engineering Supervision" Advised by Prof. Feng Liu | 2026

- Built a full-stack supervision log management system (SpringBoot + Vue.js + MySQL + Redis) covering log lifecycle and multi-level approval with fine-grained access control.
- Developed an RAG-based intelligent entry module (knowledge graph + vector DB + domain-adapted ASR) that converts voice dictation into standardized log drafts, reducing hallucination risks in vertical domain LLM applications.

PROFESSIONAL PROJECTS

Development of an automated plugin for Civil 3D for Changjiang Waterway Engineering Design and Consulting Co., Ltd. (Wuhan) (Independent, 2025–2026)

My contribution: Write code, perform building and testing, and deliver reliable products

Development of an Intelligent Supervision System (Corporate-Commissioned) (Participate, 2024–2026)

My contribution: Write part of the key code and functionalities, and participate in the design, development, and testing of products

COMPETITION EXPERIENCE

1. The 9th National College Student Water Conservancy Innovation Design Competition, *Fog-Mist Dust Suppression & Cold-Front Temperature Control: A Dual-Action Intelligent Spray-Cooling System for Excava-*

tion of Large Underground Caverns with High Ground Temperature (YX Project), **First Prize at University Level**, Wuhan University, 2025.6

2. The 4th ”Huawei Cup” National College Students’ Innovation Design Competition in Agricultural Water Conservancy and Related Majors, *Intelligent Subsurface Irrigation — A Water-Salt Regulation System Based on Monitoring and Simulation*, **National Second Prize**, Chinese Society of Agricultural Engineering, 2024.8
3. The 12th Wuhan University ”Self-Improvement Cup” Student Entrepreneurship Plan Competition,*Wisdom Eye, Flood Alert — A Next-Generation Leader in Intelligent Flood Monitoring and Early Warning*, **Silver Award at University Level**, Wuhan University, 2024.6

AWARDS

Outstanding student of Wuhan University, receiving a third-class scholarship, 2023-2024

SKILLS

Programming Language: C, C++, C#, Python, Java(Especially SpringBoot), SQL, Vue, Javascript, R, Assembly

Computer Skills: Linux, IoT(Raspberry Pi, Arduino, and other compatible development platforms)

Software: MS Office, Overleaf, AutoCAD, SPSS

Language: Chinese (native), English (CET-4: 543, CET-6: 485, IELTS: 6.0)