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Koutian Wu

 (+1) 737-420-8027
Flexible with relocation

AI Agent Development/Test/Evaluation, ML/DL Modeling, Full-Stack Engineering
2+ years work experience (US/International); **4+** years research and programming experience.

EDUCATION

Ph.D. Student in AI for Geosciences   **University of Texas at Austin**   2024 – expected May 2029
 GPA 3.9/4.0 | TA for 1,000+ students (4.5/5.0 instructor rating)
B.S. in Geosciences (Honors Class)   **University of Science and Technology of China**   2020 – 2024
 Nominee of the **Highest Honor** for USTC undergrads (one of the two ESS School nominees)
 Founded one of the largest student clubs, grew from 0 to 1,300+ members. [News]

WORK EXPERIENCE

AI Intern, AI Agent Knowledge Base Evaluation   **PineAI** (Singapore) | Remote | Jul. 2025 – Aug. 2025
- Built an evaluation system from scratch for multi-dimensional assessment of PineAI Agent's knowledge base.
- Developed a data sanitization module removing 2,000+ PII entries and noise from 1,000+ call sessions.
- Extracted 3,000+ Q&A pairs (knowledge/method/strategy) from call sessions to form the evaluation dataset.
- Implemented a 5-dimensional evaluation engine using LLM-as-a-judge method with concurrent processing.

Full-Stack Intern, LLM Text Processing System   **ZaiwenAI** | Beijing, China | Jun. 2025 – Jul. 2025
- Acted as multiple roles in the startup, from design to deployment. | [Code] (non-company business) [Demo]
- Developed 3-module MVP: LLM-footprint detection, removal, and plagiarism checking for researchers.
- Built a RESTful backend with FastAPI and an asynchronous task queue with Celery + Redis.
- Created a Vue.js frontend with 9-format document upload, SSE-based real-time LLM response streaming.

Research Assistant, ML Model Development   **UT-Austin** | Austin, TX | Aug. 2025 – Present
Project Admin, High Performance Computing Allocation   **NSF NCAR** | Remote | Aug. 2025 – Present
- Integrated machine learning parameter calibration for a SOTA physics-based land surface model (Noah-MP).
- Enhanced efficiency of traditional Monte Carlo parameter calibration with a scikit-learn framework.
- Applied for and funded by the NSF NCAR's 1k GPU hrs, 22k CPU hrs high performance computing allocation.

Visiting Scholar, High Altitude Observatory   **NSF NCAR** | Boulder, CO | Jul. 2023 – Dec. 2023
- Simulated global atmospheric wave propagation, detecting 2 distinct wave modes from Hunga-Tonga eruption.
- Integrated simulation/observation via wavelet analysis, advancing understanding of extreme volcanic events.
- First-authored presentation at a NASA Science Workshop and AGU Meeting. | [Code] [Abstract]

Full-Stack Developer, UT01 Navigation Page   **Independent** | Hybrid | Jun. 2025 – Present
- Consolidated 80+ campus resources across 11 categories based on student navigation patterns. | [Code] [Website]
- Drove 10,800+ visits through SEO optimization; optimized HTML/SCSS frontend for cross-device compatibility.

PUBLICATIONS

1. **Wu, K.**, Yi, W.*, Xue, X.*, Reid, I., & Lu, M. (2024). Diurnal and Seasonal Variations of Meteor Speed and Arrival Angle Observed by Mengcheng Meteor Radar. *JGR: Space Physics*. [Paper] [Code] [Data]
2. **Wu, K.***, Xu, X., Jiang, J., & Shen, A. (2024). A Summary Report on the Space Physics Practical Education in 2022. *Rev Geophys and Planetary Phys*. [Paper] [Code] [News]
3. **Wu, K.**, He, C., & Yang, Z.-L.* (in-preparation). Noah-Agent: A Multi-Expert AI Agent Framework for Automated Parameterization and Validation over 100K-Line Scientific Codebases.

SKILLS

- **Programming**: Python, FastAPI, Node.js, PostgreSQL, Redis, Docker, AWS/GCP, JavaScript, React, MATLAB

Resume PDF