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Koutian Wu

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

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

Education

PhD Student AI for Geosciences, University of Texas at Austin 2024 – expected May 2029
GPA 3.9/4.0, Teaching Assistant for 260+ students, instructor rating ~ 4.5/5

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 1,200+ 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 achieving 80%+ accuracy on 1,000+ PineAI Agent call sessions.
- Implemented a Q&A extraction module to reach 60%+ knowledge extraction accuracy for evaluation dataset.
- Designed a multi-dimensional evaluation engine using LLM-as-a-judge method with concurrent processing.

Full-Stack Intern, AI Text Processing System **ZaiwenAI** | Beijing, China | Jun. 2025 – Jul. 2025
- Acted as mutiple roles in the startup, from design to deployment. | [Code] (non-company business) [Demo]
- Developed the MVP of AI-footprint detection, removal, and plagiarism checking for students and researchers.
- Built a RESTful backend with FastAPI and an asynchronous task queue with Celery + Redis, +65% efficiency.
- Created a Vue.js frontend with multi-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
- Tech Stack: Physics-ML integrated modeling and machine learning parameter calibration.
- Applied for and funded by the NSF NCAR's 1k GPU hrs, 22k CPU hrs high performance computing allocation.
- Designed a framework to improve the efficiency of site-level parameter calibration using Scikit-learn.
- Architecting a model framework delivering AI-powered precision, physics-powered interpretability.

Full-Stack Developer, UT01 Navigation Page **Independent** | Hybrid | Jun. 2025 – Present
- Tech Stack: Jekyll, JS/HTML/CSS | Impact: 10,700+ visits | [Code] [Website]
- Created a unified resource platform for UT Austin's fragmented campus services based on user research.
- Applied SEO methods to enhance the exposure rate; optimized frontend for cross-device compatibility.

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]

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] [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] [News]

Skills

- **Programming**: Python, JavaScript, React, FastAPI, Node.js, PostgreSQL, Redis, GCP, Docker, MATLAB
- **AI/ML**: AI Agent Development, ML/DL Model Research, LLM Integration, Prompt Engineering

Resume PDF