

Zedong Zhou

Ph.D. Student in Computer Science | University of Nevada, Reno

zedongz@unr.edu | [Google Scholar](#) | [ORCID](#) | [LinkedIn](#)

EDUCATION

University of Nevada, Reno | Sep 2026 - Present

Ph.D. in Computer Science | Reno, Nevada, USA

Anhui Polytechnic University | Sep 2021 - Jun 2025

B.Eng. in Electrical Engineering and Automation | Wuhu, Anhui, China

RESEARCH INTERESTS

Computer Systems; Storage Systems and Flash Memory; AI Agent Security; Hardware and OS Security; AI Infrastructure; Machine Learning, 3D Reconstruction, and Visual-Inertial SLAM.

PUBLICATIONS AND PREPRINTS

Preprint

1. Haoyu Zhang, Zeyu Zhang, **Zedong Zhou**, Yang Zhao, and Hao Tang. "**Lite3R: A Model-Agnostic Framework for Efficient Feed-Forward 3D Reconstruction.**" *arXiv preprint arXiv:2605.11354* (May 2026). [arXiv](#) | [DOI](#) | [Code](#) | [Project](#)

Peer-reviewed publications

2. **Zedong Zhou**, Rui Zhong, Yang Cao, Xingbang Du, and Xinxin Guo. "**Lithium battery health state prediction based on sample entropy and time feature fusion.**" *Ionics*, 31, 9237-9251 (2025). [DOI](#)
3. Minglei Li, Hang Zhang, Tianao Shen, **Zedong Zhou**, and Zheng Zhou. "**SM-VINS: A Fast and Decoupled Monocular Visual-Inertial Sensors SLAM System With Stepwise Marginalization.**" *IEEE Sensors Journal*, 24(20), 33240-33251 (2024). [DOI](#)
4. **Zedong Zhou**, Xiangnan Jing, Yaqi Li, Boshan Nan, Huazhi Yu, Ling Wang, Yu Zhu, and Cao Yu. "**Prediction of electricity consumption in Anhui Province based on HP-ARIMA-BP.**" *Proc. Second International Conference on Electronic Information Engineering and Computer Communication (EIECC 2022)*, published 2023. [DOI](#)

RESEARCH EXPERIENCE

AI Agent Security and Storage-Level Data Protection | 2026 - Present

- Study the security limitations of host-controlled file protection against AI agents operating with elevated/root privileges, including unauthorized deletion of critical data.
- Evaluate file-system, kernel, and block-layer enforcement mechanisms (including eBPF LSM and AppArmor); investigate hardware-enforced protection boundaries.
- Use Linux system-call and block-I/O tracing to observe agent file access, storage reads/writes, and execution behavior.

Lite3R: Efficient Feed-Forward 3D Reconstruction | 2026

- Co-authored work on model-agnostic 3D reconstruction efficiency using sparse linear attention and FP8-aware quantization-aware training.
- The study evaluates VGGT and DA3-Large on BlendedMVS and DTU64, demonstrating lower latency and memory use with competitive reconstruction quality.

Lithium-Ion Battery State-of-Health Prediction | 2024 - 2025

- Designed feature fusion using sample entropy and temporal features; developed a PSO-optimized predictive model for SOH estimation.
- Performed feature extraction, model training, and experimental comparison using open-source data in small-sample settings.

Visual-Inertial SLAM: SM-VINS | 2024

- Contributed to stepwise marginalization and VINS-Mono optimization to reduce computation while improving positioning performance.
- Evaluated visual-inertial odometry using the EuRoC and TUM VI datasets.

Electricity Demand Forecasting: HP-ARIMA-BP | 2022 - 2023

- Built a hybrid HP filtering, ARIMA, and backpropagation neural-network framework for provincial electricity-consumption forecasting.
- Analyzed real electricity-consumption data and compared forecasting error against conventional baselines.

TECHNICAL SKILLS

Programming: Python, C, C++, MATLAB, Bash/Shell. **Systems:** Linux, eBPF, system-call tracing, storage/block I/O, Git.

AI & Algorithms: Time-series forecasting, neural networks, feature engineering, SLAM, ROS. **Hardware:** Microcontrollers, DSP, Arduino.

Languages: Mandarin (native); English (TOEFL iBT 95).

SELECTED HONORS & AWARDS

- First Prize, Asia-Pacific Mathematical Modeling Competition
- Second Prize, MathorCup Big Data Modeling Competition
- Third Prize, Anhui Provincial "Challenge Cup" Competition
- Bronze Prize, Anhui Provincial "Internet Plus" Innovation & Entrepreneurship Competition (Red Youth Dream Journey Group)
- Second Prize, Electrician Cup Mathematical Modeling Contest
- Third Prize, National Undergraduate Mathematical Modeling Contest (Provincial Level)

ADDITIONAL ACADEMIC & PROFESSIONAL EXPERIENCE

Soochow University ROS Summer School | Jun - Aug 2023

- Studied Robot Operating System (ROS) programming and robotics applications involving drones and quadruped robots.

Red Clover "Sail Plan" - Summer Intern | Jun - Aug 2022

- Supported field inspections and project documentation for power-grid infrastructure and utility engineering work.

Campus Communications & Community Volunteering | 2021 - 2023

- Published 30+ campus and community news reports; completed 200+ hours of volunteer service, including library support.

PATENT

Authorized invention patent (second inventor): *A Novel Shoe-Washing Machine*.