Zihao (Zack) Zhu

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Education

Texas A&M University, College Station, TX
Bachelor of Science in Computer Science, Minor in Mathematics & Statistics — Expected May 2026
Relevant Coursework: Data Structures & Algorithms, Machine Learning, Artificial Intelligence, Algorithms, Software Engineering, Computer Organization, Mathematical Statistics, Linear Algebra

Selected Publications & Manuscripts

1. **Z. Zhu**, W. Zhao, N. Chen, C. Tian, Z. Fan. **Trust3R: Unifying Feed-Forward Pointmap Prediction and Evidential Learning for Trust-Aware 3D Reconstruction**. *International Conference on Machine Learning (ICML)*, 2026. **Accepted**.
2. **Z. Zhu**, K. Huang, Z. Xu, R. Li, B. Wu, R. Bai, M. Wu, S. Paul, Z. Tu. **4KLSDB: A Large-Scale Dataset for 4K Image Restoration and Text-to-Image Generation**. *CVPR Workshop on Data-Centric Computer Vision (DataCV)*, 2026. **Accepted**.
3. R. Li, **Z. Zhu**, X. Wang, Z. Tu. **HeadsUp! High-Fidelity Portrait Image Super-Resolution**. *Submitted to ECCV*, 2026.

Research Experience

PHAI Lab, Texas A&M University (Supervised by Prof. Fan) — Sep 2025 – Present
Student Researcher, Electrical & Computer Engineering

- Developed feed-forward 3D reconstruction pipelines using pointmap prediction and uncertainty-aware evaluation
- Implemented evidential learning modules to estimate reconstruction confidence for trust-aware sparse-view 3D reconstruction
- Built 3D Gaussian Splatting compression and speed-comparison modules to evaluate rendering quality, memory cost, and efficiency

TACO Group, Texas A&M University (Supervised by Prof. Tu) — June 2024 – March 2026
Student Researcher, Computer Science & Engineering

- Led 4KLSDB dataset creation and benchmarking for high-resolution image restoration
- Contributed as second author to the HeadsUp project, supporting data pipeline development and face data collection
- Built automated data curation pipelines processing 400k+ candidate images using multimodal models

Professional & Open-Source Experience

InstantSplat++ — GitHub • **200+ stars**
Open-Source Contributor, PHAI Lab — 2026 – Present

- Contributed to an open-source sparse-view Gaussian Splatting framework for large-scale scene reconstruction, extending InstantSplat with support for 3D-GS
- Improved the research workflow with reproducible setup, train/render/evaluation scripts, and prior-model options such as VGGT and MapAnything

SpectraCell Laboratories, Inc. — May 2024 – Jul 2024
Data Science & Machine Learning Intern

- Redesigned machine learning algorithms for predicting elemental levels in patient blood samples
- Led migration from SQL Server Reporting Service to Power BI, improving reporting and visualization

Technical Skills

Programming: Python, C/C++, Java, R, SQL
Machine Learning & Tools: PyTorch, TensorFlow, Scikit-learn, Linux, Git, AWS, PostgreSQL, Power BI

Awards & Honors

3rd place in the ICCV 2025 COGS Challenge for Compact 3D Representation — Fall 2025
Dean's Honor Roll, Texas A&M University — Fall 2022