

Wenxu Zhou

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 Wenxu Zhou |  Wenxu Zhou |  0009-0005-3078-295X |  Anhui, China

PROFILE

Master's student and researcher specializing in Gaussian Splatting, self-supervised learning, and 3D scene generation. Research interests include 3D computer vision and medical image analysis.

EDUCATION

- **Anhui University** Fall 2019 - Spring 2023
B.S. in Electronics Information Engineering
- **University of Science and Technology of China** Fall 2023 - Present
M.S. in Electronic and Information Engineering
 - Advisor: Prof. Dong Yin
 - Thesis: Research on Lesion Identification in Endoscopic Scenes Based on Multi-modal Perception Fusion
 - Specialization: Machine Learning & Computer Vision

RESEARCH EXPERIENCE

- **Intelligent Information Processing Laboratory (USTC)** Sept. 2023 - Present
Focus: Industrial Shape Analysis, Dynamic Scene Reconstruction and Semantic Understanding.
 - **Intelligent Anode Copper Plate Detection Terminal:** Developed an industrial-grade copper plate measurement method based on image segmentation and morphological computation; built a user-friendly GUI, and achieved high-precision ranging (**successfully deployed in industrial application, accuracy: ±2mm**).
 - **Endoscope Scene Modeling and Analysis:** Realized high-fidelity geometric dynamic scene modeling using Gaussian Splatting; achieved open-vocabulary semantic understanding of gastrointestinal scenes via semantic encoding. Constructed a large-scale 2D-3D endoscopic dataset. We are currently pre-training a self-supervised multi-modal visual encoder, fusing image and point cloud features. Subsequent work will involve fine-tuning this encoder based on the ViT-Adapter for multiple medical analysis tasks.
- **Research Internship (Songying Technology)** Jul. 2025 - Oct. 2025
Focus: 3D In-door Scene Synthesis.
 - **LLM-Driven 3D Scene Generation:** Constructed the IL3D dataset for LLM-driven scene synthesis (powered by Qwen3 series models); developed a text-guided 3D asset retrieval system and an SFT-based 3D indoor scene generation method. Open-sourced the dataset, code, and technical report [].

SELECTED PUBLICATIONS

- [1] **Wenxu Zhou**, Taoran Sun, Tianle Hu, Jiulin Li, Dong Yin. "Endo2DGS: Endoscopic Scene Reconstruction with High-fidelity Geometry." Chinese Conference on Pattern Recognition and Computer Vision (PRCV), 2025.
- [2] **Wenxu Zhou**, Dong Yin. "Open-Vocabulary Endoscopic Scene Understanding via 4D Language Gaussian Splatting." IEEE International Conference on Bioinformatics and Biomedicine (BIBM), 2025.
- [3] **Wenxu Zhou**, Kaixuan Nie, Hang Du, Dong Yin, Wei Huang, Siqiang Guo, Xiaobo Zhang, Pengbo Hu. "IL3D: A Large-scale Indoor Layout Dataset for LLM-Driven 3D Scene Generation." arXiv preprint arXiv:2510.12095.

HONORS AND AWARDS

- **First-Class Graduate Student Academic Scholarship:** USTC (2025).
- **Second-Class Graduate Student Academic Scholarship:** USTC (2023, 2024).
- **Second Prize in the Art Exhibition (Eagle of Light, Painting):** USTC Arts Education Center (2023).
- **Second-Class Academic Excellence Scholarship:** AHU (2020).

ACADEMIC SERVICES

- **Teaching Assistant:** Data Structure and Algorithm, 2024 Fall.
- **Undergraduate Thesis Supervisor:** Guided 3 undergraduate students on graduation thesis.
- **Conference Reviewer:** PRCV, AAAI.

SKILLS

- **Programming:** Linux, Python, C/C++, PyTorch, MatLab, Qt, \LaTeX .
- **3D Tools:** Open3d, Trimesh, PyTorch3D, Blender Software and Python API.
- **Technical Expertise:** Self-supervised Learning, Gaussian Splatting, SFT for LLM.
- **Languages:** Chinese (Native), English (TOEFL: 87).