

# Yuzhuo Tian

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College of Computer Science and Technology, Zhejiang University, P. R. China

## EDUCATION

### Zhejiang University

Hangzhou, China

B.S. in College of Computer Science and Technology, GPA: 4.14/4.3, Rank: 18/195.

Sep. 2022-Jun. 2026 (expected)

- Relevant Courses:** Image Analysis and Artistic Processing (92/100), Fundamentals of Data Structures (99/100), Advanced Data Structure & Algorithm Analysis (93/100), Computer Vision (95/100), Natural Language Processing (96/100), Artificial Intelligence (92/100).

Minoring in the Advanced Class of Engineering Education (ACEE)

Sep. 2023-Jun. 2026 (expected)

- Relevant Courses:** Math Modeling (92/100), Frontiers of Artificial Intelligence (92/100), Robotics and Practice (91/100), Information Theory (97/100).

## RESEARCH INTERESTS

**Computer Vision & Spatial Intelligence.** Especially on topics about **3D Reconstruction/SLAM and Spatial Reasoning.**

I am also open to several related fields like robotics (VLA model) and world model.

## RESEARCH EXPERIENCE

### Image Semantic Segmentation through Imitation of Human Annotator Trajectory

Undergraduate Research Intern | Supervisor: Hao Chen (Zhejiang University)

May. 2024 – Jan. 2025

- We trained a MLLM for 2D image semantic segmentation task. The main idea is to imitate the trajectory of human annotators: the MLLM is used to generate annotation points, which work in conjunction with another segmentation model (such as SAM) to complete the segmentation task. This method achieves performance comparable to SOTA methods and supports additional tasks like mask refinement and annotation filtering.

### Make 3D Generative Models Orientation-Aligned

Undergraduate Research Intern | Supervisor: Yiyi Liao (Zhejiang University)

Dec. 2024 – May. 2025

- We construct a dataset consisting of orientation-aligned 3D models and use it to finetune two 3D generation models. Experiment results demonstrate that our method outperforms traditional methods with post-hoc alignment steps. Moreover, we introduce several downstream tasks to show further applications of the finetuned models.

### Point Cloud Registration Based on Diffusion Model

Undergraduate Research Intern | Supervisor: Chen Feng (New York University)

Aug. 2025 – Current

- We are working on a project about point cloud registration. Different from past work which uses mathematical optimization methods to predict transformations, we are trying to predict this directly by leveraging the diffusion-based model.

## AWARDS AND HONORS

Zhejiang Provincial Government Scholarship

2024

Zhejiang University First-Class Scholarship (3%)

2023 and 2024

Zhejiang University Outstanding Student

2023 and 2024

2023 China Collegiate Programming Contest, Shenzhen Site, Silver Medal

2023

The 2022 ICPC Asia Shenyang Regional Contest, Gold Medal

2022

## PUBLICATIONS

### SegAgent: Exploring Pixel Understanding Capabilities in MLLMs by Imitating Human Annotator Trajectories

Muzhi Zhu, **Yuzhuo Tian**, Hao Chen, Chunluan Zhou, Qingpei Guo, Yang Liu, Ming Yang, Chunhua Shen

Conference on Computer Vision and Pattern Recognition (CVPR'25), 2025.

### Orientation Matters: Making 3D Generative Models Orientation-Aligned

Yichong Lu\*, **Yuzhuo Tian\***, Zijin Jiang\*, Yikun Zhao, Yuanbo Yang, Hao Ouyang, Haoji Hu, Huimin Yu, Yujun Shen, Yiyi Liao

Conference on Neural Information Processing Systems (NeurIPS'25), 2025. \*Equal contribution

## SKILLS

- Languages:** English (TOEFL 102), Chinese (Native)
- Engineering Skills:** Programming Language: C, C++ and Python (PyTorch); Robotics-Related Software: CoppeliaSim / SolidWork; 3D Rendering Software: Blender; Hardware Practice: Verilog, FPGA and RISC-V ISA.
- Background Knowledges on Mathematics:** Calculus, Linear Algebra, Discrete Mathematics, Probabilities, Algorithm Analysis and Information Theory.