

Yingshuang Zou

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EDUCATION

Tsinghua University

China

Master: GPA: 3.94/4.0, Major: Electronic Information, Advisor: [Haoqian Wang](#)

Sept 2022 - Jun 2025

Northwestern Polytechnical University

China

Bachelor: GPA: 89.42/100, Major: Software Engineering

Sept 2018 - Jun 2022

RESEARCH INTERESTS

3D Scene Reconstruction and Perception

3D Gaussian Splatting, Neural Radiance Field, Depth Estimation

PROJECTS

Gaussian Splatting for Dynamic Autonomous Driving Scenes [\[Link\]](#)

Jan 2024 - Apr 2024

- Design a novel scene representation for modeling complex dynamic street scene, which efficiently reconstructs and renders high-fidelity “dynamic urban scenes” in real-time;
- Enhance both visual and geometric quality by jointly optimizing appearance, depth, semantics, and optical flow.

Self-Supervised Multi-camera Depth Estimation [\[Link\]](#)

Jun 2023 - Dec 2023

- Construct spatial-temporal 3D cost volumes and design a spatial-temporal fusion module for surrounding depth estimation, which strengthens the depth accuracy by fusing the spatial-temporal information;
- Introduce the SAM prior into the depth estimation task and propose a multi-grained feature fusion module to integrate SAM features with internal features for enhancing the depth quality in detail.

Weakly-Supervised Multi-view Stereo Network Reconstruction - Bachelor's Project

2022

- Propose a weakly-supervised loss function based on differential re-projection, which uses sparse depth maps as labels to address the challenge in dataset collection;
- Design a context-aware feature extraction module that enhances the capability of feature matching in low-textured regions by strengthening the aggregation of long-range global context both within and between images.

ICRA Robomaster AI Challenge [\[Link\]](#)

Dec 2019 - June 2021

- Design a simulation platform based on Gazebo for sensors information and robot navigation simulation; design perception and planning strategies for robotics and conducts hands-on debugging with the actual robots.
- Served as the team leader, maintaining the project and achieving 6th place among 72 teams.

PUBLICATIONS

Yingshuang Zou, Yikang Ding, Xi Qiu, Haoqian Wang, Haotian Zhang. “M²Depth: Self-supervised Two-Frame Multi-camera Metric Depth Estimation.”, *arXiv preprint arXiv:2405.02004(2024)* [\[Link\]](#) [\[Homepage\]](#)

Xiangwen Deng, Yingshuang Zou, Yuanhao Cai, Chendong Zhao, Yang Liu, Zhifang Liu, Yuxiao Liu, Jiawei Zhou, Haoqian Wang. “3D Face Arbitrary Style Transfer.” *arXiv preprint arXiv:2303.07709(2023)* [\[Link\]](#)

HONORS AND AWARDS

- National Scholarship 2021
- Department Scholarship at THU 2023
- Outstanding Graduates 2022
- First Class Scholarship 2019, 2020, 2021

SKILLS

- Language: Chinese (native), English
- Computing Skills: Data Structures and Algorithm Analysis, Machine Learning
- Programming: Python, C++/C, Matlab, \LaTeX .
- Programming Frameworks: Pytorch, Scikit-Learn, ROS, Docker