Shengjie Zhu
zhusheng@msu.edu | 517-802-7733 | Homepage | GoogleScholar | LinkedIn

About me

My Ph.D. focuses on monocular/multi-view depth estimation. This is a comprehensive task, encompassing topics including NeRF, structure-from-motion, correspondence estimation, camera pose estimation, camera calibration, self-supervision, etc.

Education

2017 – 2024: **PhD, Computer Science & Engineering**, *Michigan State University*, East Lansing, U.S.
Dissertation: Structure-from-Motion from Dense Learning
Advisor: Prof. Xiaoming Liu
GPA: 3.70/4.0

2013 – 2017: **Bachelor of Engineering, Electrical and Electronics**, *Southeast University*, Nanjing, China.
GPA: 3.54/4.0

Publications

ECCV'24 **Revisit Self-Supervision with Local Structure-from-Motion** [PDF, Code].
Shengjie Zhu, Xiaoming Liu

ECCV'24 **RePLAy: Remove Projective LiDAR Depthmap Artifacts via Exploiting Epipolar Geometry** [PDF, Code].
Shengjie Zhu, Girish Chandar Ganesan, Abhinav Kumar, Xiaoming Liu

NeurIPS'23 **Tame a Wild Camera: In-the-Wild Monocular Camera Calibration** [PDF, Code].
Shengjie Zhu, Abhinav Kurmur, Masa Hu, Xiaoming Liu

CVPR'23 **LightedDepth: Video Depth Estimation in light of Limited Inference View Angles** [PDF, Code].
Shengjie Zhu, Xiaoming Liu

CVPR'23 **PMatch: Paired Masked Image Modeling for Dense Geometric Matching** [PDF, Code].
Shengjie Zhu, Xiaoming Liu

CVPR'20 **The Edge of Depth: Explicit Constraints between Segmentation and Depth** [PDF, Code].
Shengjie Zhu, Garrick Brazil, Xiaoming Liu

Work Experience

May – Aug, 2024 **Research Scientist Intern, BAIR, Google**.
Accurate Camera Pose Estimation over long/short/micro baselines. Benchmark benefits on NeRF and Self-supervision.

June – Sep, 2022 **Applied Scientist Intern, Amazon Device AI**.
Develop SoTA Few-Shot Object Detection System.

June – Sep, 2021 **Applied Scientist Intern, Amazon Device AI**.
Develop Non-Learning Algorithm for Improved Depthmap Groundtruth from LiDAR, applicable to KITTI, Nuscenes, DDAD, Waymo, and Other Driving Datasets.

Computer Skills

Language **Python, CUDA, Matlab, C++, PyTorch, Tensorflow, CuPy, Numba**

Talk

Aug. 08, 2023 **3D Perception from Two Views**, Google Pixel Biometrics Seminar.
Feb. 05, 2024 **Structure-from-Motion Meets Self-supervised Learning**, CMU VACS Seminar. [Link]
Jul. 09, 2024 **Structure-from-Motion from Dense Learning**, Google Pixel Biometrics Seminar.