

Zheng Zhang (张政)

zhengzhang.cs@gmail.com | +86 137 9692 7297 | Website | GitHub

Research Interests: 3D Computer Vision, Video Geometry,
Self-Supervised Visual Representation Learning.

Technical Skills: Python, PyTorch.

EDUCATION

The University of Hong Kong (HKU)

Sep 2023 – Present

Ph.D. in Computer Science; expected completion: Aug/Sep 2027

Advisor: Hengshuang Zhao

Available for full-time roles from Sep 2027.

Harbin Institute of Technology (HIT)

Sep 2019 – Jun 2023

Bachelor of Automation

Class rank: 1/115.

RESEARCH EXPERIENCE

Ant Research

Sep 2025 – Jun 2026

Algorithm Intern

- Researched self-supervised, 3D-aware video representation learning using Gaussian splatting-based rendering supervision without pose or depth annotations.
- Led **ScaleVid**, a video pre-training framework for diverse static and dynamic videos; manuscript under review.

Alibaba DAMO Academy

Aug 2024 – Aug 2025

Algorithm Intern

- Researched video depth estimation and 3D reconstruction, focusing on scene-consistent depth prediction and long-video geometric consistency.
- Research projects: **StableDepth** (ICCV 2025, Highlight) and **SCOPE** (SIGGRAPH Conference Papers 2026).

Shanghai AI Laboratory

Feb 2023 – May 2024

Algorithm Intern

- Researched 3D reconstruction and Gaussian density control under sparse point-cloud initialization.
- Proposed **Pixel-GS**, a pixel-aware gradient-based density control method for 3D Gaussian Splatting; published at ECCV 2024.

PUBLICATIONS & RESEARCH

ScaleVid

Scalable Self-Supervised 3D-Aware Video Pre-training from Diverse and Dynamic Video

Under review

- Developed a self-supervised framework for learning 3D-aware video representations from diverse static and dynamic videos, using rendering-based supervision **without pose or depth labels**.

PUBLICATIONS & RESEARCH (continued)

SCOPE

Scale-Consistent One-Pass Estimation of 3D Geometry

Zheng Zhang, Lihe Yang, Tianyu Yang, Chaohui Yu, Yixing Lao, Xiaoyang Guo, Biao Gong, Fan Wang, Hengshuang Zhao

SIGGRAPH Conference Papers 2026

- Developed a **single-pass** model for estimating scale-consistent 3D geometry from long monocular videos, improving geometric accuracy and temporal consistency across hundreds of frames.
- Reduced relative point-map error by **24.2%** and temporal alignment error by **34.9%** versus MoGe on ScanNet.

Paper | Project | Code

StableDepth

Scene-Consistent and Scale-Invariant Monocular Depth

Zheng Zhang*, Lihe Yang*, Tianyu Yang, Chaohui Yu, Xiaoyang Guo, Yixing Lao, Hengshuang Zhao (*Equal contribution)

ICCV 2025 – Highlight

- Developed a monocular depth estimation model that produces scene-consistent, scale-invariant predictions, reducing temporal flickering while supporting **frame-by-frame online inference**.

Paper | Project

Pixel-GS

Density Control with Pixel-aware Gradient for 3D Gaussian Splatting

Zheng Zhang, Wenbo Hu, Yixing Lao, Tong He, Hengshuang Zhao

ECCV 2024

- Proposed pixel-aware density control for **3D Gaussian Splatting**, improving reconstruction quality in sparsely initialized regions while suppressing floating artifacts.

Paper | Project | Code

SELECTED AWARDS

- | | |
|--|-----------|
| • National Scholarship | Dec 2021 |
| • National Scholarship | Dec 2020 |
| • Chinese Mathematics Competitions (12th) – First Prize in Final | May 2021 |
| • Chinese Mathematics Competitions in Senior (11th–13th) – First Prize | 2019–2021 |
| • Chinese Mathematical Olympiad in Senior (34th) – First Prize | Nov 2018 |