

# SAINING ZHANG

College of Computing and Data Science,  
Nanyang Technological University, Singapore  
Email: SAINING001@e.ntu.edu.sg

[Homepage](#)



## EDUCATION

**Nanyang Technological University**  
M.Eng. in Computer Science and Engineering,  
Supervised by Prof. Hanwang Zhang

Singapore  
Aug 2024-Present

- GPA: 4.5/5.0

**Beijing Institute of Technology**  
B.Sc. in Computer Science and Technology

Beijing, China  
Oct 2020 – Jun 2024

- GPA: 88.4/100 (3.7/4.0)
- Selected awards: Outstanding Undergraduate Dissertation Award, Second-class Scholarship of Beijing Institute of Technology.

## PUBLICATIONS

1. **Selftok Team**. “Selftok: Discrete Visual Tokens of Autoregression, by Diffusion, and for Reasoning”, Technical Report, 2025.
2. Licheng Shen\*, **Saining Zhang**\*†, Honghan Li\*, Zongzheng Zhang, Huan-ang Gao, Miao Run, Li Yi, Hao Zhao†. “GaussianArt: One-Stage Modeling of Articulated Objects with Scaled-Up Evaluation”, under review, *CORL 2025*.
3. Yinghao Shuai\*, **Saining Zhang**\*, Zijian Jiang, Yuantao Chen, Zhang Jiahao, Yusen Qin, Yao Mu, Hao Zhao†. “Gen-NAV: Generative Simulation with Gaussian Photorealistic Rendering for Evolving Environments”, under review, *CORL 2025*.
4. Baijun Ye\*, Minghui Qin\*, **Saining Zhang**\*, Moonjun Gong, Shaoting Zhu, Hao Zhao, Hang Zhao†. “GS-Occ3D: Scaling Vision-only Occupancy Reconstruction for Autonomous Driving with Gaussian Splatting”, under review, *ICCV 2025*.
5. Haoran Xu\*, **Saining Zhang**\*, Peishuo Li\*, Baijun Ye, Xiaoxue Chen, Huan-ang Gao, Jv Zheng, Xiaowei Song, Ziqiao Peng, Run Miao, Jinrang Jia, Yifeng Shi, Guangqi Yi, Hang Zhao, Hao Tang, Hongyang Li, Kaicheng Yu, Hao Zhao†. “CRUISE: Cooperative Reconstruction and Editing in V2X Scenarios using Gaussian Splatting”, accepted, *IROS 2025*.
6. **Saining Zhang**\*, Baijun Ye\*, Xiaoxue Chen, Yuantao Chen, Zongzheng Zhang, Cheng Peng, Yongliang Shi, Hao Zhao†. “Drone-assisted Road Gaussian Splatting with Cross-view Uncertainty”, published, *BMVC 2024*.
7. **Saining Zhang**, Yuhang Zhang, Ye Zhang, Yufei Wang, Zhigang Song†. “A Dual-Direction Attention Mixed Feature Network for Facial Expression”, *Electronics (JCR Q2)*, 12 (17), 3595, 2023.

## SELECTED AWARDS AND HONORS

- **Outstanding Undergraduate Dissertation Award, Beijing Education Commission (top 0.9% in 130,000 students)**
- **Winner Award**, NTIRE 2024 (CVPR 2024 workshop) Stereo Image Super-Resolution Challenge Track 1 & Track 2
- **Second place**, 2021 iFLYTEK A.I. Developer Competition Facial Expression Recognition Challenge

## RESEARCH EXPERIENCE

**Singapore Graphics & Image Intelligence Lab, Huawei Singapore**

Singapore

Assistant Engineer to Associate Professor Hanwang Zhang

Sep 2024 – Present

- We build Selftok, the best image tokenizer in the world for both generation and understanding.

**Institute for AI Industry Research (AIR), Tsinghua University**

Beijing, China

Research Intern to Assistant Professor Hao Zhao

Oct 2023 – Present

### **Generative Simulation VLN with 3DGS @ Horizon**

- We build a VLN benchmark based on generative simulation with 3DGS.

### **3D-GS Articulation Modeling**

- We are trying to discover an one-state self-supervised articulation modeling .

### **V2X Simulation**

- We proposed the first V2X simulation pipeline based on dynamic gaussians.

### **Drone-assisted Road Gaussian Splatting**

- We are the first to introduce cross-view uncertainty to 3DGS training for road scene synthesis. The method outperforms existing techniques especially when the view shifts or rotates.

### **Harvard T.H. Chan School of Public Health (Department of Biostatistics)**

Remote

Research Intern to Assistant Professor Junwei Lu

Mar 2023 – Mar 2024

### **Research for Medical Informatics**

- Hyperbolic embedding for entity alignment between knowledge graphs
- Involved in Multi Modal General Med AI via LLM

### **University of Chinese Academy of Sciences**

Beijing, China

RA to Prof. Jiaoqing Pan and Associate Research Fellow, Zhigang Song

Aug 2022 – Oct 2022

### **Facial Expression Recognition**

- I proposed a novel baseline for facial expression recognition based on MobileFaceNets and added MixConv to take advantage of multiple-size kernels; used dual direction attention heads to achieve long-range dependencies. The model performed best on AffectNet-7, AffectNet-8 and RAF-DB and second-best on FER-Plus.

### **Beijing Institute of Technology (School of Medical Technology)**

Beijing, China

Research Intern to Professor Jian Yang

May 2022 – May 2023

### **High-Resolution Boundary Detection for Medical Image Segmentation**

- Assisted in high-resolution boundary detection in medical image segmentation. We applied piece-wise two-sample T-test to the loss function. Tested our loss on UNet, nnUNet and FCN and achieved best performance on ACDC Challenge data comparing to other loss functions

## **WORK EXPERIENCE**

---

### **Huawei International Pte Ltd**

Singapore

Assistant Engineer

Sep 2024 – Present

- Image tokenizer based on diffusion methods.

### **Beijing Horizon Information Technology Co., Ltd**

Remote

Cloud Platform Intern, D-Robotics

Sep 2024 – Present

- Generative simulation for Visual Language Navigation (VLN).

### **Beijing Samsung Telecommunication R&D Center**

Beijing, China

Algorithm Intern, Vision Computing Lab

Jun 2022 – Sep 2022

- Research on Object Detection, Instance Segmentation, and Face Reenactment; coded a model for Instance Segmentation based on YOLOv6 and YOLACT.

## **ADDITIONAL INFORMATION**

---

### **Computer Skills**

- C++, Python and assembly languages. Familiar with Java, SQL, Pytorch toolbox. Original (drawing), Matlab (mathematical modeling) and LaTeX (writing). UE-5, Meshlab.

### **Language Skills**

- TOEFL: 102 (Reading: 28, Listening: 27, Oral: 22, Writing:25)  
GRE: 323 (Verbal: 153, Quantitative: 170, Writing: 3.0)