

SHENYUAN GAO

2nd-year Ph.D. student at HKUST

Homepage: github.com/Little-Podi ◇ Email: sygao@connect.ust.hk

EDUCATION

The Hong Kong University of Science and Technology

2022 - 2026 (expected)

Ph.D. in Electronic and Computer Engineering

Advised by Prof. Jun Zhang (IEEE Fellow)

Huazhong University of Science and Technology

2018 - 2022

B.Eng. in Electronic Information Engineering

GPA: 3.9/4.0

Advanced Class (Elite Program for Information Science, 30/400)

Rank: 1/30

RESEARCH INTEREST

Embodied AI Autonomous Driving, Generalist Robot, Decision Making

Generative AI World Models, Diffusion Models, Vision-Language Models

PUBLICATION

Vista: A Generalizable Driving World Model with High Fidelity and Versatile Controllability

Shenyuan Gao, Jiazhi Yang, Li Chen, Kashyap Chitta, Yihang Qiu, Andreas Geiger, Jun Zhang, Hongyang Li

[[Paper](#)] [[Demo](#)] [[Code](#)] (300+ stars within 2 weeks)

Generalized Predictive Model for Autonomous Driving

Jiazhi Yang*, **Shenyuan Gao***, Yihang Qiu*, Li Chen, Tianyu Li, Bo Dai, Kashyap Chitta, Penghao Wu, Jia Zeng, Ping Luo, Jun Zhang, Andreas Geiger, Yu Qiao, Hongyang Li

Accepted by CVPR 2024 as *Highlight* (**Top 2.8%**).

[[Paper](#)] [[Dataset](#)]

Generalized Relation Modeling for Transformer Tracking

Shenyuan Gao, Chunluan Zhou, Jun Zhang

Accepted by CVPR 2023.

[[Paper](#)] [[Code](#)]

AiATrack: Attention in Attention for Transformer Visual Tracking

Shenyuan Gao, Chunluan Zhou, Chao Ma, Xinggang Wang, Junsong Yuan

Accepted by ECCV 2022.

[[Paper](#)] [[Code](#)]

Content-Aware Masked Image Modeling Transformer for Stereo Image Compression

Xinjie Zhang, **Shenyuan Gao**, Zhening Liu, Jiawei Shao, Xingtong Ge, Dailan He, Tongda Xu, Yan Wang, Jun Zhang

[[Paper](#)]

EXPERIENCE

Shanghai Artificial Intelligence Laboratory, OpenDriveLab

April 2023 - present

Research Intern

Shanghai, China

- Leader: Dr. Hongyang Li
- Working on foundation models for autonomous driving.
- Experienced in large-scale training with hundreds of GPUs and thousands of hours of video data.
- Developed a driving world model with strong generalization to diverse scenarios and applications.

The Hong Kong University of Science and Technology

Research Postgraduate Program

September 2022 - present

Hong Kong SAR, China

- Advisor: Prof. Jun Zhang (IEEE Fellow)
- Worked on object tracking and neural compression.
- Worked on multi-agent perception system.
- Proposed a generalized relation modeling formulation for Transformer-based tracking.
- Proposed a content-aware masked image modeling for bidirectional prior interaction.

Huazhong University of Science and Technology

Final Year Project for Bachelor Degree

March 2022 - Jun 2022

Wuhan, China

- Advisor: Prof. Peng Yang
- Worked on the intersection of tracking and efficient deep learning.
- Proposed a slimmable tracker with hierarchical weight sharing.
- Awarded as outstanding graduation thesis.

University at Buffalo

Summer Research Intern

July 2021 - March 2022

New York, United States (Remote)

- Advisor: Prof. Junsong Yuan (IEEE Fellow)
- Worked on object tracking.
- Proposed Attention in Attention to facilitate correspondence learning.

The University of Hong Kong, MMLab

HKU CS Summer Research Internship Programme

July 2021 - August 2021

Hong Kong SAR, China (Remote)

- Advisor: Prof. Ping Luo
- Worked on the intersection of tracking and visual grounding.
- Completed the research project successfully with full stipend award.

HONORS AND AWARDS

- | | |
|--|-----------|
| • Full Postgraduate Scholarship | 2022-2026 |
| • RedBird PhD Scholarship | 2022-2023 |
| • Outstanding Graduate | 2022 |
| • Outstanding Graduation Thesis | 2022 |
| • Outstanding Undergraduate in Terms of Academic Performance (Top 1%) | 2019 |
| • National Scholarship (Top 2%) | 2019 |

ACADEMIC SERVICES

Conference Reviewer

CVPR 2023/2024, NeurIPS 2023/2024, ECCV 2024, ICPR 2024

Journal Reviewer

TPAMI, TMM, TCSVT, IMAVIS

Teaching Assistant

COMP 5214: Advanced Deep Learning Architectures (for postgraduate/undergraduate)

ELEC 3100: Signal Processing and Communications (for undergraduate)

MISC

During my undergraduate, I built and launched a personal blog on my own.

So far, I have posted about 177,000 words of notes and already received 144,000 views from 99,000 unique visitors.

I am a big fan of One Piece comics (not its animation).

Many of my belongings contain elements of One Piece, including 6 different T-shirts with its characters.