# SHENYUAN GAO

3rd-year Ph.D. student at HKUST
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## RESEARCH INTEREST

**Embodied AI** Generalist Robots, Learning from Web Data
**Generative AI** Video World Models, Open-Ended Learning

## PUBLICATION

**AdaWorld: Learning Adaptable World Models with Latent Actions**
**Shenyuan Gao**, Siyuan Zhou, Yilun Du, Jun Zhang, Chuang Gan
Accepted by ICML 2025. [Paper] [Web] [Code]

**UniVLA: Learning to Act Anywhere with Task-Centric Latent Actions**
Qingwen Bu*, Yanting Yang*, Jisong Cai*, **Shenyuan Gao**, Guanghui Ren, Maoqing Yao, Ping Luo, Hongyang Li
Accepted by RSS 2025. [Paper] [Code]

**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
Accepted by NeurIPS 2024. [Paper] [Web] [Code]

**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]

**ReSim: Reliable World Simulation for Autonomous Driving**
Jiazhi Yang, Kashyap Chitta, **Shenyuan Gao**, Long Chen, Yuqian Shao, Xiaosong Jia, Hongyang Li, Andreas Geiger, Xiangyu Yue, Li Chen
arXiv preprint 2025. [Paper] [Web] [Code]

**AgiBot World Colosseo: A Large-Scale Manipulation Platform for Scalable and Intelligent Embodied Systems**
Qingwen Bu, Jisong Cai, Li Chen, Xiuqi Cui, Yan Ding, Siyuan Feng, **Shenyuan Gao**, Xindong He, Xu Huang, Shu Jiang, Yuxin Jiang, Cheng Jing, Hongyang Li, Jialu Li, Chiming Liu, Yi Liu, Yuxiang Lu, Jianlan Luo, Ping Luo, Yao Mu, Yuehan Niu, Yixuan Pan, Jiangmiao Pang, Yu Qiao, Guanghui Ren, Cheng Ruan, Jiaqi Shan, Yongjian Shen, Chengshi Shi, Mingkang Shi, Modi Shi, Chonghao Sima, Jianheng Song, Huijie Wang, Wenhao Wang, Dafeng Wei, Chengen Xie, Guo Xu, Junchi Yan, Cunbiao Yang, Lei Yang, Shukai Yang, Maoqing Yao, Jia Zeng, Chi Zhang, Qinglin Zhang, Bin Zhao, Chengyue Zhao, Jiaqi Zhao, Jianchao Zhu
Accepted by IROS 2025. [Paper] [Web] [Code] [Dataset] (*the most popular robotics dataset on Hugging Face*)

**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
Accepted by AAAI 2025. [Paper] [Code]

## EXPERIENCE

**NVIDIA Research, GEAR** — May 2025 - present
*Research Intern* — *San Jose, California, United States*

- Working with Prof. Yuke Zhu, Jim Fan, Scott Reed, and the Cosmos team.
- Working on scaling foundation models for humanoid robots.

**University of Massachusetts Amherst** — August 2024 - January 2025
*Visiting Scholar* — *Amherst, Massachusetts, United States*

- Worked with Prof. Chuang Gan, Yilun Du.
- Worked on boosting the adaptability of video world models.

**Shanghai AI Laboratory, OpenDriveLab** — April 2023 - May 2025
*Research Intern* — *Shanghai, China*

- Worked with Prof. Hongyang Li.
- Worked on generalizable world models for autonomous driving.

**University at Buffalo** — July 2021 - March 2022
*Research Intern* — *Buffalo, New York, United States*

- Worked with Prof. Junsong Yuan (IEEE Fellow).
- Worked on object tracking. Proposed Attention in Attention.

**University of Hong Kong, MMLab** — July 2021 - Augest 2021
*HKU CS Summer Research Internship Programme* — *Hong Kong SAR, China*

- Worked with Prof. Ping Luo.
- Worked on visual tracking and grounding. Successfully completed the project and received the full stipend award.

## EDUCATION

**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

## HONORS AND AWARDS

- XingQi Intern (*the highest honor for research interns at Shanghai AI Laboratory*) — 2024-2025
- NeurIPS Top Reviewer — 2024
- 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

**Workshop Organizer**
NeurIPS 2025 Workshop on Embodied World Models for Decision Making

**Conference Reviewer**
ICLR, ICML, NeurIPS, RSS, CVPR, ICCV, ECCV, WACV, AAAI, AISTATS, ICPR

**Journal Reviewer**
TMLR, TPAMI, TMM, TCSVT, TASE, IMAVIS, PR

**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 150,000 views from 100,000 unique visitors.

I am a crazy fan of One Piece comics (not its animation).
I own 14 T-shirts with One Piece characters, which allows me to change for 2 weeks without repeating.