

SHENYUAN GAO

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

Accepted by NeurIPS 2025 as *Spotlight* (**Top 3.2%**). [\[Paper\]](#) [\[Web\]](#) [\[Code\]](#)

AgiBot World Colosseum: A Large-Scale Manipulation Platform for Scalable and Intelligent Embodied Systems

AgiBot-World-Contributors: 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, Mingkan 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*)

3D and 4D World Modeling: A Survey

Lingdong Kong, Wesley Yang, Jianbiao Mei, Youquan Liu, Ao Liang, Dekai Zhu, Dongyue Lu, Wei Yin, Xiaotao Hu, Mingkai Jia, Junyuan Deng, Kaiwen Zhang, Yang Wu, Tianyi Yan, **Shenyuan Gao**, Song Wang, Linfeng Li, Liang Pan, Yong Liu, Jianke Zhu, Wei Tsang Ooi, Steven CH Hoi, Ziwei Liu

arXiv preprint 2025. [\[Paper\]](#) [\[Web\]](#) [\[List\]](#)

Generalized Relation Modeling for Transformer Tracking

Shenyuan Gao, Chunlun Zhou, Jun Zhang

Accepted by CVPR 2023. [\[Paper\]](#) [\[Code\]](#)

AiATrack: Attention in Attention for Transformer Visual Tracking

Shenyuan Gao, Chunlun 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

Research Intern

May 2025 - present

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

Visiting Scholar

August 2024 - January 2025

Amherst, Massachusetts, United States

- Worked with Prof. [Chuang Gan](#), [Yilun Du](#).
- Worked on boosting the adaptability of video world models.

Shanghai AI Laboratory, OpenDriveLab

Research Intern

April 2023 - May 2025

Shanghai, China

- Worked with Prof. [Hongyang Li](#).
- Worked on generalizable world models for autonomous driving.

University at Buffalo

Research Intern

July 2021 - March 2022

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

HKU CS Summer Research Internship Programme

July 2021 - August 2021

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

Ph.D. in Electronic and Computer Engineering

Advised by Prof. [Jun Zhang](#) (IEEE Fellow)

2022 - 2026 (expected)

Huazhong University of Science and Technology

B.Eng. in Electronic Information Engineering

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

2018 - 2022

GPA: 3.9/4.0

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, ASOC

Teaching Assistant

COMP 5214: Advanced Deep Learning Architectures (graduate/undergraduate)

ELEC 3100: Signal Processing and Communications (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 manga (not its animation).

I own 14 T-shirts with One Piece characters, which allows me to change for 2 weeks without repeating.