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]

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.

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] (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]

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
[Paper] [Web] [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]

EXPERIENCE

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

· Working with Prof. Yuke Zhu, Jim Fan, Scott Reed.
· 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 - April 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.

The 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

- 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

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

Journal Reviewer
TMLR, TPAMI, TMM, TCSVT, 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.