HE LI

Personal Website ◇ Github Profile ◇ Google Scholar
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EDUCATION

Tsinghua University (THU) *July 2026 (expected)*
B.E. in Computer Science (Yao Class, IIIS)
GPA: 3.952/4.000
Rank: 5/94 among Yao Class

RESEARCH INTERESTS

I am interested in generative model and computer vision, especially about relationship between generation, representation, comprehension and their application in the real world.

PUBLICATIONS

[1] T. Li, Y. Tian, **Li, He**, M. Deng, and K. He, "Autoregressive image generation without vector quantization," in *Advances in Neural Information Processing Systems*, A. Globerson, L. Mackey, D. Belgrave, *et al.*, Eds., vol. 37, Curran Associates, Inc., 2024, pp. 56 424–56 445. [Online]. Available: https://arxiv.org/abs/2406.11838.

[2] K. Wang, J. Chen, **He Li**, Z. Mi, and J. Zhu, *Sparsedm: Toward sparse efficient diffusion models*, 2024. arXiv: 2404.10445 [cs.LG]. [Online]. Available: https://arxiv.org/abs/2404.10445.

RESEARCH EXPERIENCES

TBD Jun 2025 - Sep 2025
Supervisors: Dr. Zhang Yuhui and Prof. Serena Yeung Stanford (Onsite, UGVRI)

· TBD.

Autoregressive Vision Model Jan 2024 - Jun 2025
Supervisors: Dr. Li Tianhong and Prof. He Kaiming MIT (Onsite in 2025 Spring, RA)

· Autoregressive without vector quantisation [1], NeurIPS 2024 **(Spotlight)**.
· Adversarial training in autoregressive model.
· Finetuning generation model from pretrained representation model.
· Co-training of representation and generation.
· Causal autoregressive with one-step method in image generation.

Sparsity for Diffusion Models Oct 2023 - May 2024
Supervisors: Dr. Wang Kafeng, Prof. Chen Jianfei, and Prof. Zhu Jun THU (Undergrad. Intern)

· Progressive $N : M$ sparsity for better sparse diffusion model [2], ICME 2025.

ACADEMIA & TEACHING SERVICES

Reviewer for ICCV 2025, ARR May 2025 2025

· Providing comments and suggestions for decision on the submitted papers.

Official TA for Machine Learning Sep 2025 - Jan 2025
Instructor: Prof. Yuan Yang THU

· Composing & rating homework and exams, hosting office hour and recitation class.

Official TA for Advanced Computer Graphics Sep 2025 - Jan 2025
Instructor: Prof. Yi Li THU

· TA for rendering-track project, composing & rating homework and exams, hosting tutorial class.

Unofficial TA for Object-Oriented Programming Feb 2023 - July 2023
Instructor: Prof. Liu Zhiyuan THU

· Helping students with their programming assignments and projects.

Student Association of Science and Technology (SAST) Sep 2023 - Sep 2024
Department: AI Agent Department THU-CST

· Participating in the regular acticities and development of the SAST.

AWARDS & GRANTS

Academic Excellence Scholarship	*2024*
Tsinghua Alumni - Nanjing Turing Institute of Artificial Intelligence Scholarship	*2024*
Tsinghua Freshman Scholarship	*2022*
First prize in provincial CMO (Tianjin)	*2020,2021*
First prize in provincial CPhO (Tianjin)	*2020,2021*
First prize in CSP-S (Tianjin)	*2019*

SELECTED OPEN-SOURCE PROJECTS

Imitation Learning with Diffusion Policy Sep 2024 - Jan 2025
Repository: Imitation Learning with Diffusion Policy Collaborators: Rujia Yang

· Incorporating Low-Dimensional Self-Supervised Loss for Diffusion Policies in Imitation Learning.

Merged Contribution to Maniskill Repository Sep 2024 - Jan 2025
Repository: Enhance SAC with MoE and BEE Operator Collaborators: Guowei Xu, Muhan Wang

· Introducing two plug-and-play enhancements to the Soft Actor-Critic (SAC) algorithm, inspired by recent advancements in reinforcement learning research.

GPU Graphics Renderer Sep 2024 - Jan 2025
Repository: GPU Rendering for Interference and Dispersion Collaborators: Chenglin Liu

· GPU-based graphics renderer implemented in GLSL with original wave effect simulation feature.

AI Computing Acceleration on Chips July 2024 - Sep 2024
Repository: Torus Network on Chips with Adaptive Balanced Routing Collaborators: Haoyang Weng

· A network-on-chips project based on gem5, implementing torus network and load-balanced adaptive routing algorithm with abundant ablation experiments.

KAN Exploration Feb 2024 - July 2024
Repository: Computer Vision Meets KAN Collaborators: Yue Cao

· Classification by FFT/PCA preprocessing and Kolmogorov-Arnold Network, achieving higher accuracy.