# 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 EXPERIENCES

Every bullet point is a single research project.

**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.

## 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.

## ACADEMIA & TEACHING SERVICES

Reviewer for **ICCV 2025, ARR May 2025** *2025*
TA for **Machine Learning** by Prof. Yuan Yang *Sep 2025 - Jan 2025*
TA for **Advanced Computer Graphics** by Prof. Yi Li *Sep 2025 - Jan 2025*
Student TA for **Object-Oriented Programming** by Prof. Liu Zhiyuan *Feb 2023 - July 2023*

## AWARDS & GRANTS

Academic Excellence Scholarship *2024*
Tsinghua Alumni - Nanjing Turing Institute of Artificial Intelligence Scholarship *2024*
Tsinghua Freshman Scholarship *2022-2026*
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.

**Physically Based 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

· Based on gem5, implementing torus network and load-balanced adaptive routing algorithm.

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

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