

# Kaiwen Tian

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## Education

Department of Automation, Tsinghua University

Sep. 2023 – Jun. 2027 (Expected)

B.Eng. in Automation

- GPA: 3.9/4.0, Rank 6/173 (Top 4%)
- Selected Coursework: Programming Fundamentals (A), Linear Algebra (A), Principles of Artificial Intelligence (A-), Pattern Recognition and Machine Learning (A-), Generative Artificial Intelligence (A-), Intelligent Speech Processing (A), Signals and System Analysis (A), Operations Research (A)

## Research Interests

My previous work focused on generative models and computer vision, particularly 3D / 4D reconstruction. I am currently interested in LLMs, LLM agents, generative models, and AI for Science (AI4Science), with an emphasis on building intelligent systems for scientific research.

## Publications & Preprints

[1] **Sparse-View 4D Gaussian Splatting via Spatiotemporal Priors and Generative Assistance**

Volumetric Video Challenge Workshop, SIGGRAPH Asia 2026 (Accepted)

🏆 **First Prize (Rank 1), Sparse-View Track** | [arXiv:2610.04606](https://arxiv.org/abs/2610.04606)

Shengqi Wang, Zhengxian Yang, **Kaiwen Tian**, Yang Liu, Bowen Liu, Hua Du, Taicheng Huang, Jiamin Wu, Tao Yu<sup>†</sup>

<sup>†</sup> Corresponding author.

## Research Experiences

**Research Assistant (LLM Agents / AI for Research)**

Hong Kong, China

Advisor: Prof. Qiang Xu, The Chinese University of Hong Kong

Sep. 2026 – Present

- Develop LLM-based agents for scientific research workflows, focusing on the use of large language models to support AI for Science.

**Research Assistant (Sparse-View Dynamic Human Reconstruction)**

Beijing, China

Advisor: Prof. Tao Yu, Tsinghua University

Oct. 2025 – Sep. 2026

- Reproduced and benchmarked representative 3D / 4D reconstruction methods, including 3DGS, VGGT, and Dif-fuman4D, under sparse-view settings.
- Investigated generative-model-assisted dynamic human 4D reconstruction by conditioning the Wan video generation model with geometric priors for novel view synthesis.

**Research Assistant (AI-Enhanced Autonomous Driving Simulation)**

Beijing, China

Advisor: Prof. Li Li, Department of Automation, Tsinghua University

Apr. 2025 – Jun. 2025

- Investigated the application of large language models and deep learning to autonomous driving simulation, focusing on scenario understanding and decision planning.
- Designed and implemented evaluation metrics for assessing the simulation platform.

## Internship Experience

**Research Intern (LLM Agents / AI for Science)**

Beijing, China

PhAI Labs

Sep. 2026 – Present

- Work on LLM agents and AI for Science, exploring intelligent systems for scientific research and discovery.

**Algorithm Development Intern (Sparse-View Reconstruction for XR)**

Beijing, China

JD Retail, XR Product R&D Department

Jul. 2026 – Sep. 2026

- Conducted a technical study of sparse-view reconstruction for XR, covering few-view modeling, novel view synthesis, and generative geometric priors.

## Honors and Awards

**First Prize (Rank 1), Sparse-View Track, Volumetric Video Challenge**

Sep. 2026

The 2nd Volumetric Video Challenge Workshop, SIGGRAPH Asia 2026

**Second Prize, The 8th Tsinghua University Artificial Intelligence Challenge (THUAI-8)**

May 2025

**Academic Excellence Scholarship, Tsinghua University**

2024

## Skills

- **Programming:** Python, C/C++
- **Machine Learning & Tools:** PyTorch, Git, generative models, 3D / 4D reconstruction
- **Languages:** Chinese (native), English (CET-4: 647, CET-6: 547, TOEFL 4.5/6)