

Siyuan LIU

+852 56335719 +86 13121569352

✉ siyuan00.liu@connect.polyu.hk ✉ siyuan00.liu@gmail.com

Education

The Hong Kong Polytechnic University (PolyU), Hong Kong

- BSc in Computing and AI GPA: 3.61 / 4.3

Sep. 2023 – Jun. 2027

(Expected)

Stanford University, Palo Alto, US

- Summer School Program in Computer Science

Jun. – Aug. 2025

University of Waterloo, Waterloo, Canada

- Exchange Program in Math

Sep. – Dec. 2025

Publications

BreakBeat: AI-Powered Dance Movement Segmentation & Choreography Insight Platform ↗

Jun. 2025

CVPR 2025 Demo Track

- **Siyuan Liu**, Jingwen Yang, Jiawen Duan

Infi-Med: Low-Resource Medical MLLMs with Robust Reasoning Evaluation, *arXiv preprint*

May 2025

- Zeyu Liu, Zhitian Hou, Yining Di, Kejing Yang, Zhijie Sang, Congkai Xie, Jingwen Yang, **Siyuan Liu**, Jialu Wang, Chunming Li, Ming Li, Hongxia Yang, *arXiv:2505.23867*, May 2025.

Enhancing Suicide Risk Detection with MDF-FOF, *IEEE Big Data 2024*

Jun. 2024

- Zheng Shouwen, Zhou Taiqi, Tao Yingzhi, Chen Junru, Wang Ruofei, **Liu Siyuan**, in *Proc. of the IEEE Int'l Conf. on Big Data*, pp. 8581–8590, Jun. 2024.

Research

Tsinghua NLP Lab ↗, **Department of Computer Science**, THU

Jun. 2024 – Aug. 2024

Research Intern – Prof. Han Xu (w/ ModelBest Inc.)

Project: Development of Xiaoda ↗ – An AI-powered Student Growth Assistant based on LLMs

- Built and curated a multilingual knowledge base to support LLM-driven personalized dialogue and student growth assistance.
- Drove product iteration through user feedback analysis and cross-functional collaboration with design and engineering teams.

Dec. 2026 – Present

Project: Long-Text Embedding and Hybrid Attention for Memory-Efficient LLMs

- Designed long-text embedding pipelines with a focus on efficient representation under extended context lengths.
- Investigated hybrid attention architectures to reduce memory usage while maintaining embedding accuracy in long-context settings.

RAIDS Lab ↗, **Department of Industrial and Systems Engineering**, PolyU

Jul. 2024 – Present

Undergraduate Researcher – Prof. Zheng Pai

Project: Integrating Vision and Tactile Sensing Algorithms for Multimodal Robot Hand Teleoperation in Smart Manufacturing

- Built **LEGOBench**, a novel multimodal benchmark for evaluating VLMs in LEGO assembly tasks (part identification, pose estimation, connection reasoning).
- Designed structured prompts and standardized outputs to align model generation with robotic execution requirements.
- Implemented an end-to-end evaluation pipeline compatible with HuggingFace models, including Qwen2.5-VL, with automated CSV-based benchmarking.
- Reproduced baselines from PhysBench and verified cross-benchmark generalization to instruction understanding tasks.

ReALLM-Labs ↗, **Department of Computing**, PolyU

Jan. 2025 – Jun. 2025

Research Assistant – Prof. Hongxia Yang

Project: ReALLM-Med-Eval ↗ – A Robust Evaluation Framework for Medical LLMs

- Ran large-scale experiments evaluating instruction-followed SFT models on multimodal medical tasks using MMMU, MedBench, and PMC-VQA.
- Cleaned and organized medical instruction datasets to support SFT and reproducible benchmark creation.
- Contributed to arXiv publication *arXiv:2505.23867* ↗, assisting in writing and visualizations.

Awards

IEEE BigData 2024 Cup - Team ranked 1st out of 47 teams with cash prize

2024

Talent Development Scholarship - HKSAR Government Scholarship Fund (HK\$10,000 US\$1,280)

2025

Most Outstanding Academic Achievement Award - Recognised for top academic performance

2024, 2025

Dean's Honours List - Recognised for outstanding academic performance

2024/25

Technical Skill

Languages: C++, Python, R, Java

Software: cursor, Pycharm, VS Code, IntelliJ IDEA