Weichen Lyu | 吕韦辰

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Education

Tsinghua University, M.Eng. Student — Sep. 2025 – Present
Artificial Intelligence — **GPA: 3.8/4.0** — Expected graduation: 2028
Department of Automation
Supervisor: Prof. Yueqi Duan
Research Topic: 3D Vision and Embodied AI
Research Focus: Specializing in 3D vision technologies and applications

Sun Yat-sen University, Undergraduate — Sep. 2021 – Jun. 2025
B.Eng. in Intelligent Science and Technology — **GPA: 3.8/4.0**
School of Intelligent Systems Engineering
Core Course: Deep Learning (91/100); Fundamentals of Autonomous Driving (99/100); Optimization Theory and Methods (90/100); Multi-Agent Swarm Control Technologies (99/100); Natural Language Processing (90/100).

Publications and Preprints

* Equal contribution. † Corresponding author.

[1] **PhySGA: A Physics-Space Grounded Agentic Framework for Generalizable and Interactive 3D Composition.**
Weichen Lyu*, Chong Xia*, Mingyu Dong, Long Xu, Shengjun Zhang, Yueqi Duan†.
Submitted to ICLR 2027. arXiv:2610.20560, 2026. Paper Project page **Co-first author**.

[2] **WMT: A Unified World Model Transfer for Scaling Generalizable Embodied Demonstrations.**
Chong Xia*, Mingyu Dong*, Tianqi Wang, **Weichen Lyu**, Shengjun Zhang, Yueqi Duan†.
Submitted to CVPR 2027.

[3] **ReplicateAnyScene: Zero-Shot Video-to-3D Composition via Textual-Visual-Spatial Alignment.**
Mingyu Dong*, Chong Xia*, Mingyuan Jia, **Weichen Lyu**, Long Xu, Zheng Zhu, Yueqi Duan†.
3DV 2027 under review. arXiv:2604.10789, 2026. Paper Project page

[4] **A Novel End-to-End 3-D Residual and Attention Enhancement Joint Few-Shot Learning Model for Huntington Clinical Assessment.**
Jiehui Huang, Lishan Lin, Jiaying Lin, Jun Zhou, Baiqiao Yin, **Weichen Lyu**, Fengjuan Su, Kang Yuan, Mansi Cai, Yucheng Li, Haifan Kong, Jean-Marc Burgunder, Zhong Pei, Calvin Yu-Chian Chen†.
IEEE Transactions on Instrumentation and Measurement, vol. 74, pp. 1–11, 2025. Paper

Research Experience

Research Assistant, The Chinese University of Hong Kong, Shenzhen — May. – Sep. 2025
Shenzhen Key Laboratory of Cross-modal Cognitive Computing (C3 Lab)
SpeechLab, School of Data Science — Supervisor: Prof. Zhizheng Wu
Research focus: Text-to-Speech (TTS) post-training.

Honors and Awards

Outstanding Student Scholarship, Sun Yat-sen University 2021–2022
Outstanding Student Scholarship, Sun Yat-sen University 2022–2023
Special Scholarship (Professional Competence Award), Sun Yat-sen University 2022–2023