Zhenyang Li

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Education

2023.09 – Present **The University of Hong Kong (HKU)**, Ph.D. in Electrical and Computer Engineering (formerly EEE). Advisor: Dr. Yifan (Evan) Peng. Research areas: computer vision, computer graphics, VR/AR/MR, computational imaging.

2020.09 – 2023.07 **Tsinghua University (THU)**, M.S. in Big Data Engineering.
Department of Automation and Shenzhen International Graduate School. Advisor: Prof. Kai Zhang.

2016.09 – 2020.07 **Nanjing University of Science and Technology (NJUST)**, B.S. in Electronic and Information Engineering.
School of Electronic and Optical Engineering.

Research / Industry Experience

2025.10 – Present **Research Intern, Tencent LIGHTSPEED STUDIOS**, Shenzhen, China.
Research focus: multimodal and 3D content generation and simulation.

2022.07 – 2022.11 **Research Intern, Megvii Technology Limited (Face++)**, Beijing, China.
Research focus: visual odometry, NeRF, multi-view stereo, and feature matching.

2021.11 – 2022.05 **Research Intern, Microsoft Research Asia (MSRA)**, Beijing, China.
Research focus: video understanding and learning-based computer vision.

2021.03 – 2021.09 **Artificial Intelligence Researcher, Huawei Technologies Co., Ltd.**, Shenzhen, China.
Research focus: 3D reconstruction and visual localization.

Selected Publications & Patents

* indicates equal contribution.

ERF-GS: Reconstructing Fast Motion from Disjoint Event-RGB Viewpoints, *Computational Visual Media (CVMJ)*, 2026.
Xiaoyang Bai*, Zhenyang Li*, Weiwei Xu, Edmund Y. Lam, and Yifan Peng.

SAP: Segment Any 4K Panorama, *arXiv preprint*, 2026.
Lutao Jiang, Zidong Cao, Weikai Chen, Xu Zheng, Yuanhuiyi Lyu, Zhenyang Li, Zeyu Hu, Yingda Yin, Keyang Luo, Runze Zhang, Kai Yan, Shengju Qian, Haidi Fan, Yifan Peng, Xin Wang, Hui Xiong, and Ying-Cong Chen.

Augmented Reality Integration Improves Ergonomics in Dynamic Navigation for Dental Implant Surgery, *Journal of the Society for Information Display*, 2026.
Pui Hang Leung, Feng Wang, Zhenyang Li, Zongqi He, Yifan Peng, and Wei-fa Yang.

EventTracer: Fast Path Tracing-based Event Stream Rendering, *IEEE Transactions on Visualization and Computer Graphics (TVCG)*, 2026.
Zhenyang Li*, Xiaoyang Bai*, Jinfan Lu, Pengfei Shen, and Yifan Peng.

PatternGSL: A Structured Specification Language for Template-Free and Simulation-Ready 3D Garments, *SIGGRAPH*, 2026.
Zhenyang Li*, Lutao Jiang*, Yizhou Zhao, Weikai Chen, Ying-Cong Chen, Xin Wang, and Yifan Peng.

Structure-grounded Training Strategies Aid Generalization in Stereo Matching, *International Conference on 3D Vision (3DV)*, 2026.
Liangxun Ou, Yuhui Liu, Zhenyang Li, Xiaoyang Bai, and Yifan Peng.

ConsistNav: Closing the Action Consistency Gap in Zero-Shot Object Navigation with Semantic Executive Control, *arXiv preprint*, 2026.
Haosen Wang*, Zhenyang Li*, Yinqiang Zhang, Zongqi He, Lutao Jiang, Kai Li, Yizhou Zhao, Liaoyuan Fan, Wenjian Hou, Tingbang Liang, Yibin Wen, and Defeng Gu.

Enhanced Velocity Field Modeling for Gaussian Video Reconstruction, *IEEE International Symposium on Mixed and Augmented Reality (ISMAR)*, 2025.
Zhenyang Li*, Xiaoyang Bai*, Tongchen Zhang, Pengfei Shen, Weiwei Xu, and Yifan Peng.

ORBIT: Overlapping Region-Based Image Feature Matching Technique, *Under review*, 2025.
Qi Luo*, Zhenyang Li*, Linsong Xue, Haojie Wu, Yifan Peng, and Kai Zhang.

Toward Material-Agnostic System Identification from Videos, *IEEE/CVF International Conference on Computer Vision (ICCV)*, 2025.
Yizhou Zhao, Haoyu Chen, Chunjiang Liu, Zhenyang Li, Charles Herrmann, Junhwa Hur, Yinxiao Li, Ming-Hsuan Yang, Bhiksha Raj, and Min Xu.

Point Resampling and Ray Transformation Aid to Editable NeRF Models, *arXiv preprint*, 2024.
Zhenyang Li*, Zilong Chen*, Feifan Qu, Mingqing Wang, Yizhou Zhao, Kai Zhang, and Yifan Peng.

CryoSAM: Training-free CryoET Tomogram Segmentation with Foundation Models, *Medical Image Computing and Computer Assisted Intervention (MICCAI)*, 2024.
Yizhou Zhao, Hengwei Bian, Michael Mu, Mostofa R. Uddin, Zhenyang Li, Xiang Li, Tianyang Wang, and Min Xu.

3D-HoloNet: Fast, unfiltered, 3D hologram generation with camera-calibrated network learning, *Optics Letters*, 2024.
Wenbin Zhou, Feifan Qu, Xiangyu Meng, Zhenyang Li, and Yifan Peng.

Breaking Filter Bubble: A Reinforcement Learning Framework of Controllable Recommender System, *The ACM Web Conference (WWW)*, 2023.
Zhenyang Li*, Yancheng Dong*, Chen Gao, Yizhou Zhao, Dong Li, Jianye Hao, Kai Zhang, Yong Li, and Zhi Wang.

Unsupervised Anomaly Detection with Local-Sensitive VQVAE and Global-Sensitive Transformers, *IEEE International Conference on Image Processing (ICIP)*, 2023.
Mingqing Wang, Jiawei Li, Zhenyang Li, Chengxiao Luo, Bin Chen, Shu-Tao Xia, and Zhi Wang.

Enhancing multi-view stereo with contrastive matching and weighted focal loss, *IEEE International Conference on Image Processing (ICIP)*, 2022.
Yikang Ding*, Zhenyang Li*, Dihe Huang, Zhiheng Li, and Kai Zhang.

Adaptive Range guided Multi-view Depth Estimation with Normal Ranking Loss, *Asian Conference on Computer Vision (ACCV)*, 2022.
Yikang Ding*, Zhenyang Li*, Dihe Huang, Kai Zhang, Zhiheng Li, and Wensen Feng.

Alignment-guided Temporal Attention for Video Action Recognition, *Advances in Neural Information Processing Systems (NeurIPS)*, 2022.
Yizhou Zhao*, Zhenyang Li*, Xun Guo, and Yan Lu.

Wireless network maximum safety rate power distribution method based on direction modulation, *Authorized invention patent CN110635832A*, 2019.
Zhenyang Li, Yumeng Zhang, Jiayu Li, Feng Shu, Haochen Li, Tianyun Wang, Yu Wang, Yuefeng Huang, Linqing Gui, and Yuwen Qian.

Research Focus & Technical Skills

Research Areas	World models; 3D/4D scene reconstruction and generation; 3D Gaussian Splatting; neural rendering; event-based vision.
Core Methods	NeRF/3DGS; video and 3D generation; path tracing; multi-view geometry; stereo/depth estimation; vision-language-action models.
Applications	Dynamic visual world modeling; fast motion reconstruction; simulation-ready garments; AR/MR navigation; holographic imaging and display.

Academic Service, Talks & Honors

PC Member	**34th ACM Multimedia (ACMMM) 2026**.
Reviewer	CVPR 2026, ECCV 2026, NeurIPS 2026, BMVC 2026, 3DV 2026, ISMAR 2026.
	SIGGRAPH Asia 2025 (XR Track), ICCV 2025, ISMAR 2025, NeurIPS 2025, ICML 2025, ICLR 2025, ACM MM 2025, AISTATS 2025, ACML 2025, 3DV 2025, NeurIPS 2024.
Journal	IEEE Journal of Selected Topics in Signal Processing (J-STSP).

Invited Talks & Teaching

2025.12	**WeLight Workshop**, Organizer and Speaker, The University of Hong Kong.
2023.05	**ELEC4544: AI and Deep Learning**, Guest Lecturer, The University of Hong Kong.

Honors and Awards

2023.12	**Champion**, Guangdong-Hong Kong-Macao Greater Bay Area (Huangpu) International Algorithm Case Competition. Topic: 3D reconstruction using neural implicit representation.
2020.04	**Top 7/256**, High-energy particle collision classification challenge, Beindata.
2019.05	**Second Prize**, American College Student Mathematical Modeling Contest (MCM).
2017	**TE Connectivity Scholarship** (Top 1/600), **Beijing SMC Education Foundation Outstanding Scholarship Special Award** (Top 1/600), and **Second Prize** in National Mathematics Competition for College Students.