

EDUCATION

- **The Chinese University of Hong Kong** Hong Kong SAR, China
Ph.D., Multimedia Laboratory (MMLab). Supervisor: Prof. Dahua Lin, Prof. Ziwei Liu 2021 – 2025 (Expected)
- **Zhejiang University** Hangzhou, China
B.S. in Computer Science; GPA: 3.97/4.00. Rank: 1/154 2017 – 2021

RESEARCH INTERESTS

Computer Vision, Generative Modeling, Image/Video/3D/4D Generation

PREPRINT

- **TC4D: Trajectory-Conditioned Text-to-4D Generation**
Sherwin Bahmani*, Xian Liu*, Wang Yifan*, Ivan Skorokhodov, Victor Rong, Ziwei Liu, Xihui Liu, Jeong Joon Park, Sergey Tulyakov, Gordon Wetzstein, Andrea Tagliasacchi, David Lindell
Preprint, under review.
- **BrushNet: A Plug-and-Play Image Inpainting Model with Decomposed Dual-Branch Diffusion**
Xuan Ju, Xian Liu, Xintao Wang, Yuxuan Bian, Ying Shan, Qiang Xu
Preprint, under review.

CONFERENCE PUBLICATIONS

(* denotes equal contribution)

- **HumanGaussian: Text-Driven 3D Human Generation with Gaussian Splatting**
Xian Liu, Xiaohang Zhan, Jiayang Tang, Ying Shan, Gang Zeng, Dahua Lin, Xihui Liu, Ziwei Liu
IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**), 2024.
- **HyperHuman: Hyper-Realistic Human Generation with Latent Structural Diffusion**
Xian Liu, Jian Ren, Aliaksandr Siarohin, Ivan Skorokhodov, Yanyu Li, Dahua Lin, Xihui Liu, Ziwei Liu, Sergey Tulyakov
International Conference on Learning Representations (**ICLR**), 2024.
- **Semantic-Aware Implicit Neural Audio-Driven Video Portrait Generation**
Xian Liu, Yinghao Xu, Qianyi Wu, Hang Zhou, Wayne Wu, Bolei Zhou
European Conference on Computer Vision (**ECCV**), 2022. (**Oral Presentation, Top 2.7%**)
- **Audio-Driven Co-Speech Gesture Video Generation**
Xian Liu, Qianyi Wu, Hang Zhou, Yuanqi Du, Wayne Wu, Dahua Lin, Ziwei Liu
Advances in Neural Information Processing Systems (**NeurIPS**), 2022. (**Spotlight Presentation**)
- **Learning Hierarchical Cross-Modal Association for Co-Speech Gesture Generation**
Xian Liu, Qianyi Wu, Hang Zhou, Yinghao Xu, Rui Qian, Xinyi Lin, Xiaowei Zhou, Wayne Wu, Bo Dai, Bolei Zhou
IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**), 2022.
- **Taming Diffusion Models for Audio-Driven Co-Speech Gesture Generation**
Xian Liu*, Lingting Zhu*, Xuanyu Liu, Rui Qian, Ziwei Liu, Lequan Yu
IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**), 2023.
- **Visual Sound Localization in the Wild by Cross-Modal Interference Erasing**
Xian Liu*, Rui Qian*, Hang Zhou*, Di Hu, Weiyao Lin, Ziwei Liu, Bolei Zhou, Xiaowei Zhou
AAAI Conference on Artificial Intelligence (**AAAI**), 2022.

- **TextCraft: Your Text Encoder Can be Image Quality Controller**
Yanyu Li, Xian Liu, Anil Kag, Ju Hu, Yerlan Idelbayev, Dhritiman Sagar, Yanzhi Wang, Sergey Tulyakov, Jian Ren
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2024.
- **Object-Compositional Neural Implicit Surfaces**
Qianyi Wu, Xian Liu, Yuedong Chen, Kejie Li, Chuanxia Zheng, Jianfei Cai, Jianmin Zheng
European Conference on Computer Vision (ECCV), 2022.
- **MonoHuman: Animatable Human Neural Field from Monocular Video**
Zhengming Yu, Wei Cheng, Xian Liu, Wayne Wu, Kwan-Yee Lin
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2023.
- **Semantics Meets Temporal Correspondence: Self-supervised Object-centric Learning in Videos**
Rui Qian, Shuangrui Ding, Xian Liu, Dahua Lin
International Conference on Computer Vision (ICCV), 2023.
- **Unbiased Video Representation Learning with Decoupled Mutual Information Constraint**
Rui Qian, Shuangrui Ding, Xian Liu, Dahua Lin
European Conference on Computer Vision (ECCV), 2022.
- **Make-A-Volume: Leveraging Latent Diffusion Models for Cross-Modality 3D Brain MRI Synthesis**
Lingting Zhu, Zeyue Xue, Zhenchao Jin, Xian Liu, Jingzhen He, Xuanyu Liu, Ziwei Liu, Lequan Yu
Medical Image Computing and Computer Assisted Intervention (MICCAI), 2023.
- **Motion Capture from Internet Videos**
Junting Dong, Qing Shuai, Yuanqing Zhang, Xian Liu, Xiaowei Zhou, Hujun Bao
European Conference on Computer Vision (ECCV), 2020. (Oral Presentation, Top 2%)
- **Enhancing Self-supervised Video Representation Learning via Multi-level Feature Optimization**
Rui Qian, Yuxi Li, Huabin Liu, John See, Shuangrui Ding, Xian Liu, Dian Li, Weiyao Lin
International Conference on Computer Vision (ICCV), 2021.

JOURNAL PUBLICATIONS

- **ChemSpacE: Toward Steerable and Interpretable Chemical Space Exploration**
Yuanqi Du, Xian Liu, Shengchao Liu, Jieyu Zhang, Bolei Zhou
Transactions on Machine Learning Research (TMLR), 2023.

WORKSHOP PAPERS

- **Interpreting Molecular Space with Deep Generative Models**
Yuanqi Du, Xian Liu, Shengchao Liu, Jieyu Zhang, Bolei Zhou
ELLIS Machine Learning for Molecule Discovery Workshop, 2021. (Oral Presentation)
ICLR Machine Learning for Drug Discovery Workshop, 2022.

WORKING EXPERIENCE

- **Deep Imagination Research Group, NVIDIA Research** Santa Clara, America
Research Scientist Intern. Supervisor: Ting-Chun Wang, Ming-Yu Liu
Topic: Image/Video Generation Foundation Model
Mar. 2024 - Now
- **Tencent AI Laboratory** Shenzhen, China
Research Intern. Supervisor: Ying Shan, Xiaohang Zhan
Topic: Text-Driven 3D Human Generation
Sept. 2023 - Mar. 2024
- **Creative Vision Group, Snap Research** Los Angeles, America
Research Intern. Supervisor: Sergey Tulyakov, Jian Ren, Aliaksandr Siarohin
Topic: Human Generation Foundation Model
May. 2023 - Sept. 2023
- **Digital Content Group, Shanghai AI Laboratory** Shanghai, China
Research Intern. Supervisor: Bo Dai
Topic: Audio-Visual Learning, Generative Modeling
Jul. 2021 - Feb. 2022

- **Intelligent Video Group, SenseTime Research**
Research Intern. Supervisor: Wayne Wu
Topic: Audio-Driven Talking Face Generation, Co-Speech Gesture Generation

Shanghai, China
Aug. 2020 - Jun. 2021

PROFESSIONAL SERVICES

- **Conference Reviewer:** CVPR (2022-2024), ECCV (2022-2024), ICCV (2023), SIGGRAPH (2024), SIGGRAPH Asia (2022, 2023), NeurIPS (2022, 2023), ICML (2022-2024), ICLR (2023, 2024), AAAI (2022-2024).
- **Journal Reviewer:** IJCV, TVCG.

SELECTED HONORS & AWARDS

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| • ICLR Travel Award | 2024 |
| • National Scholarship | 2019, 2020 |
| • Hong Kong Ph.D. Fellowship Scheme (HKPFS) | 2021-2025 |
| • Outstanding Graduate, Zhejiang Province | 2021 |
| • SenseTime Scholarship | 2020 |
| • Tang Lixin Scholarship | 2019 |
| • First Class Scholarship for Academic Excellence | 2019, 2020 |