Xian Liu

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Education

- **The Chinese University of Hong Kong** — Hong Kong SAR, China
  Ph.D. Student of Multimedia Laboratory (MMLab), Information Engineering — 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, Cross-Modal Learning, Digital Human Modeling

Manuscripts

- **ChemSpacE: Toward Steerable and Interpretable Chemical Space Exploration**
  Yuanqi Du, **Xian Liu**, Shengchao Liu, Jieyu Zhang, Bolei Zhou
  Preprint, Under Review.

Conference Publications

(* denotes equal contribution)

- **Audio-Driven Co-Speech Gesture Image Generation**
  Xian Liu, Qianyi Wu, Hang Zhou, Yuanqi Du, Wayne Wu, Dahua Lin, Ziwei Liu
  Conference on Neural Information Processing Systems (**NeurIPS**), 2022.

- **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%)**

- **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.

- **Unbiased Video Representation Learning with Decoupled Mutual Information Constraint**
  Rui Qian, Shuangrui Ding, **Xian Liu**, Dahua Lin
  European Conference on Computer Vision (**ECCV**), 2022.

- **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.

- **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.

- **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.

- **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%)**

Workshop Papers

- **ChemSpacE: Toward Steerable and Interpretable Chemical Space Exploration**
  Yuanqi Du, **Xian Liu**, Shengchao Liu, Jieyu Zhang, Bolei Zhou
  ICLR 2022 Machine Learning for Drug Discovery Workshop, 2022.

- **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)**

Working Experience

- **Digital Content Group, Shanghai AI Laboratory** — Shanghai, China
  Research Intern — Jul. 2021 - Feb. 2022
  Topic: Audio-Visual Learning, Generative Modeling

- **Intelligent Video Group, SenseTime Research** — Shanghai, China
  Research Intern — Aug. 2020 - Jun. 2021
  Topic: Audio-Driven Talking Face Generation, Co-Speech Gesture Generation

- **Microsoft China** — Beijing, China
  Back-end Engineer Intern — Jul 2019 - Sep 2019

Professional Services

- **Conference Reviewer:** CVPR (2022), ECCV (2022), SIGGRAPH Asia (2022), NeurIPS (2022), ICML (2022), AAAI (2022-2023).

Selected Honors & Awards

- **National Scholarship** 2019, 2020
- **Hong Kong Ph.D. Fellowship Scheme (HKPFS)** 2021-2025
- **Outstanding Graduate, Zhejiang Province** 2021
- **Outstanding Bachelor Thesis Award of Zhejiang University, Top 1%** 2021
- **SenseTime Scholarship** 2020
- **Tang Lixin Scholarship** 2019
- **First Class Scholarship for Academic Excellence** 2019, 2020

Teaching Experience

- **Spring 2022:** ENGG 1120, Linear Algebra for Engineers.
- **Fall 2021:** ENGG 2440, Discrete Mathematics for Engineers.