

# YINGHAO XU

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## RESEARCH INTEREST

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I am a fourth-year Ph.D. student at Multimedia Lab (MMLab), Department of Information Engineering in The Chinese University of Hong Kong. I graduated from Zhejiang University in 2019. My research focuses on 2D&3D generative models and neural rendering.

I have published eight first-author top-conference papers, including five CVPR papers and two ECCV papers and one TPAMI paper. **Five of them are accepted as Spotlight Presentation or above papers.** All of my papers have released the codes in GitHub, which receive more than 1,700 stars.

## EDUCATION

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**Ph.D.**, *Information Engineering*, The Chinese University of Hong Kong, MMLab 09/2019 - Present  
Advised by: Prof. Bolei Zhou and Prob. Dahua Lin.

**B.Eng.**, *Information Engineering*, Zhejiang University 09/2015 - 06/2019  
Minor: Advanced Class of Engineering Education, Chu-Kochen Honors College

## PUBLICATION

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- **Yinghao Xu**, Yujun Shen, Jiapeng Zhu, Ceyuan Yang, Bolei Zhou, “GH-Feat: Learning Versatile Generative Hierarchical Features from GANs”, TPAMI, 2022.
- Zifan Shi, **Yinghao Xu**, Yujun Shen, Deli Zhao, Qifeng Chen, Dit-Yan Yeung, “Improving 3D-aware Image Synthesis with A Geometry-aware Discriminator“, NeurIPS 2022.
- Xian Liu, **Yinghao Xu**, Qianyi Wu, Hang Zhou, Wayne Wu, Bolei Zhou, “Semantic-Aware Implicit Neural Audio-Driven Video Portrait Generation“, ECCV 2022, **Oral**.
- **Yinghao Xu\***, Qingyan Bo\*, Jiapeng Zhu, Weixiao Xia, Yujiu Yang, Yujun Shen, “High-fidelity GAN Inversion with Padding Space“, ECCV 2022.
- **Yinghao Xu**, Sida Peng, Ceyuan Yang, Yujun Shen, Bolei Zhou, “3D-aware Image Synthesis via Learning Structural and Textural Representations”, CVPR 2022.
- **Yinghao Xu**, Fangyun Wei, Xiao Sun, Ceyuan Yang, Yujun Shen, Bo Dai, Bolei Zhou, Stephen Lin, “Cross-Model Pseudo-Labeling for Semi-Supervised Action Recognition”, CVPR 2022, **Oral**.
- **Yinghao Xu**, Yujun Shen, Jiapeng Zhu, Ceyuan Yang, Bolei Zhou, “Generative Hierarchical Features from Synthesizing Images”, CVPR 2021, **Oral, Homepage**
- **Yinghao Xu\***, Ze Yang\*, Han Xue\*, Zheng Zhang, Raquel urtasun, Liwei Wang, Stephen Lin, Han Hu, “Dense RepPoints: Representing 2D Objects with Dense Point Sets”, ECCV 2020
- **Yinghao Xu\***, Ceyuan Yang\*, Jianping Shi, Bo Dai, Bolei Zhou, ”Temporal Pyramid Network for Action Recognition” , CVPR 2020
- **Yinghao Xu**, Xin Dong, Yudian Li, Hao Su, “A Main/Subsidiary Network Framework for Simplifying Binary Neural Network”, CVPR 2019
- Sida Peng, Yuanqing Zhang, **Yinghao Xu**, Qianqian Wang, Qing Shuai, Hujun Bao, Xiaowei Zhou, “Neural Body: Implicit Neural Representations with Structured Latent Codes for Novel View Synthesis of Dynamic Humans”, CVPR 2021, **Best Paper Candidate, Homepage**
- Jianyuan Wang, Ceyuan Yang, **Yinghao Xu**, Yujun Shen, Hongdong Li, Bolei Zhou, “Improving GAN Equilibrium by Raising Spatial Awareness”, CVPR 2022.

- Ceyuan Yang, Yujun Shen, **Yinghao Xu**, Bo Dai, Deli Zhao, Bolei Zhou, “Improving GANs with A Dynamic Discriminator“, NeurIPS 2022.
- Jiapeng Zhu, Yujun Shen, **Yinghao Xu**, Deli Zhao, Qifeng Chen, “Region-Based Semantic Factorization in GANs”, ICML 2022.
- Xian Liu, Qianyi Wu, Hang Zhou, **Yinghao Xu**, Rui Qian, Xinyi Lin, Xiaowei Zhou, Wayne Wu, Bo Dai, and Bolei Zhou, “Learning Hierarchical Cross-Modal Association for Co-Speech Gesture Generation“, CVPR 2022
- Ceyuan Yang, Yujun Shen, **Yinghao Xu**, Bolei Zhou, “Data-Efficient Instance Generation from Instance Discrimination”, NeurIPS 2021.
- Bangbang Yang, Yinda Zhang, **Yinghao Xu**, Yijin Li, Han Zhou, Hujun Bao, Guofeng Zhang, and Zhaopeng Cui, “Learning Object-Compositional Neural Radiance Field for Editable Scene Rendering“, ICCV 2021.
- Hantang Liu, **Yinghao Xu**, Jialiang Zhang, Jianke Zhu, Steven C.H. Hoi, “DeepFacade: A Deep Learning Approach to Facade Parsing with Symmetric Loss”, IEEE Transactions on Multimedia (TMM) 2020
- Chen Zhang, **Yinghao Xu**, Yujun Shen, “Decorating Your Own Bedroom: Locally Controlling Image Generation with Generative Adversarial Networks”, AI for Content Creation Workshop (CVPRW), 2021
- Chen Zhang, **Yinghao Xu**, Yujun Shen, “CompConv: A Compact Convolution Module for Efficient Feature Learning”, Efficient Deep Learning for Computer Vision (CVPRW), 2021

## PREPRINT

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- **Yinghao Xu**, Menglei Chai, Zifan Shi, Sida Peng, Ivan Skorokhodov, Aliaksandr Siarohin, Ceyuan Yang, Yujun Shen, Hsin-Ying Lee, Bolei Zhou, Sergey Tulyakov, “DiscoScene: Spatially Disentangled Generative Radiance Field for Controllable 3D-aware Scene Synthesis”, arxiv pre-print, 2022.
- Qihang Zhang, Ceyuan Yang, Yujun Shen, **Yinghao Xu**, Bolei Zhou, “Towards Smooth Video Composition”, arxiv pre-print, 2022.
- Zifan Shi\*, Sida Peng\*, **Yinghao Xu\***, Yiyi Liao, Yujun Shen, “Deep Generative Models on 3D Representations: A Survey”, arxiv pre-print 2022.
- Qingyan Bai, Ceyuan Yang, **Yinghao Xu**, Xihui Liu, Yujiu Yang, Yujun Shen, “GLEAD: Improving GANs with A Generator-Leading Task”, arxiv pre-print 2022.
- Ceyuan Yang, Yujun Shen, Zhiyi Zhang, **Yinghao Xu**, Jiapeng Zhu, Zhirong Wu, Bolei Zhou, “One-Shot Generative Domain Adaptation”, arxiv pre-print, 2021.
- **Yinghao Xu**, Ceyuan Yang, Bo Dai, Ziwei Liu, Bolei Zhou, “Unsupervised Landmark Learning from Unpaired Data”, arxiv pre-print, 2020.
- Ceyuan Yang, **Yinghao Xu**, Bo Dai, Bolei Zhou, “Video representation learning with visual tempo consistency”, arxiv pre-print, 2020.

## RESEARCH EXPERIENCE

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### Snap Inc.

*Creative vision team, Advised by Menglei Chai and Sergey Tulyakov*

*06/2022 - 10/2022*

- 3D object generation on large-scale unaligned datasets
- 3D scene generation from unposed 2D images.

**ByteDance Inc.** 08/2021 - 02/2022

*Tiktok, Advised by Yujun Shen*

- 3D-aware Image Synthesis and Real Image inversion.

**Microsoft Research Asia** 04/2021 - 07/2021

*Visual Computing, Advised by Xiao Sun, Fangyun Wei, Stephen Lin*

- Semi-supervised Action Recognition.

**Microsoft Research Asia** 11/2018 - 06/2019

*Visual Computing, Advised by Jifeng Dai, Han Hu, Stephen Lin*

- 2D Object Detection and Instance Segmentation
- Action Recognition and Video Object Detection

**University San Diego** 07/2018 - 10/2018

*Visual Computing, Advised by Hao Su*

- Binary Neural Network Pruning
- Optimization for Quantization Network

## HONORS

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<b>Postgraduate Scholarship in CUHK</b>	2019
<b>Huawei Scholarship</b>	2018
<b>National Scholarship</b>	2018
<b>Tang Lixin Scholarship</b>	2018
<b>First Class Scholarship For Academic Excellence</b>	2018, 2017
<b>Government Scholarship of Zhejiang Province</b>	2017, 2016
<b>Meritorious Winner, Interdisciplinary Contest In Modeling (ICM)</b>	2018
<b>First Prize of Mathematics competition of Chinese College Students</b>	2017