

XIN YU

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RESEARCH INTERESTS

My research is concentrated on computer vision and deep learning, with a particular emphasis on generative models and their broader impacts. I am currently working on the denoising diffusion model for 3D generation and image generation. Besides, I explore the wider implications of generative models in non-content synthesis research domains, such as synthetic data's impact on vision tasks and generative probabilistic models for open-world problems. I believe understanding these potentials can drive innovations in computer vision and beyond.

EDUCATION

The University of Hong Kong, CVMI Lab

Ph.D Student, Dept. of Electrical and Electronic Engineering
Advisor: Xiaojuan Qi

Hong Kong (SAR)

Aug. 2022 - Present

Sun Yat-sen University

B.Sc in Mathematics and Applied Mathematics

Guangzhou, China

Aug. 2016 - June 2021

- **GPA: 94/100; Ranking: 2/130**

- After studying in the School of Physics from Aug. 2016 to June 2017, my interests led me to Mathematics. I ranked first in the transfer exam, enabling my switch to the School of Mathematics, where I completed my degree from Aug. 2017 to June 2021.

University of California, Berkeley

Berkeley International Study Program

CA, USA

Aug. 2019 - Dec. 2019

PUBLICATIONS

1. **TEXGen: a Generative Diffusion Model for Mesh Textures**

Xin Yu, Ze Yuan, Yuanchen Guo, Yingtian Liu, Jianhui Liu, Yangguang Li, Yanpei Cao, Ding Liang, Xiaojuan Qi.

ACM SIGGRAPH Asia Conference Proceedings (SIGGRAPH Asia), 2024

ACM Transactions on Graphics (TOG), Journal Accepted

2. **Unidream: Unifying diffusion priors for relightable text-to-3d generation**

Zexiang Liu, Youtian Lin, Yangguang Li, **Xin Yu**, Sida Peng, Yanpei Cao, Xiaojuan Qi, Xiaoshui Huang, Ding Liang, Wanli Ouyang.

European Conference on Computer Vision (ECCV), 2024

3. **Text-to-3D with Classifier Score Distillation**

Xin Yu, Yuanchen Guo, Yangguang Li, Ding Liang, Songhai Zhang, Xiaojuan Qi.

International Conference on Learning Representations (ICLR), 2024

4. **Image Inpainting via Iteratively Decoupled Probabilistic Modeling**

Wenbo Li, **Xin Yu**, Kun Zhou, Yibing Song, Zhe Lin, Jiaya Jia.

*International Conference on Learning Representations (ICLR, **Spotlight**), 2024*

5. **Texture Generation on 3D Meshes with Point-UV Diffusion**

Xin Yu, Peng Dai, Wenbo Li, Lan Ma, Zhengze Liu, Xiaojuan Qi.

*International Conference on Computer Vision (ICCV, **Oral**), 2023*

6. **Towards Efficient and Scale-Robust Ultra-High-Definition Image Demoireing**
Xin Yu, Peng Dai, Wenbo Li, Lan Ma, Jiajun Shen, Jia Li, Xiaojuan Qi.
European Conference on Computer Vision (ECCV), 2022
7. **Is synthetic data from generative models ready for image recognition?**
Ruifei He, Shuyang Sun, **Xin Yu**, Chuhui Xue, Wenqing Zhang, Philip Torr, Bai Song, Xiaojuan Qi.
*International Conference on Learning Representations (ICLR, **Spotlight**), 2023*
8. **Hybrid Neural Rendering for Large-Scale Scenes with Motion Blur**
Peng Dai, Yinda Zhang, **Xin Yu**, Xiaoyang Lyu, Xiaojuan Qi.
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2023
9. **Video Demoireing with Relation-Based Temporal Consistency**
Peng Dai, **Xin Yu**, Lan Ma, Baoheng Zhang, Jia Li, Wenbo Li, Jiajun Shen, Xiaojuan Qi.
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2022

RESEARCH/WORK EXPERIENCES

Adobe

Research Scientist Internship (Generative Image Edit)

San Jose, USA

July. 2024 - Present

Vast

Research Internship (3D Generation)

Beijing, China

May. 2023 - May. 2024

The University of Hong Kong

Research Assistant, Dept. of Electrical and Electronic Engineering

Hong Kong (SAR)

Sept. 2021 - Aug. 2022

SELECTED HONORS/AWARDS

- Postgraduate Scholarship (PGS) *Aug 2022 - Present*
- **Outstanding Graduate in SYSU (Top 5%)** *July 2021*
- Excellent Bachelor Thesis in SYSU (Top 5%) *June 2021*
- Superior Excellent Graduate of Yat-sen Honor School *June 2021*
- **National Scholarship (×2, Top 2%)** *Dec. 2019, 2018*
- The First-Class Scholarship (×3, Top 5%) *Dec. 2020, 2019, 2018*
- First Prize of China Undergraduate Mathematical Contest *Nov. 2018*
- Honorable Mention Prize of Interdisciplinary Contest in Modeling (ICM) *Apr. 2018*
- **First Prize of Chinese High School Mathematics League** *Oct. 2015*

SKILLS

Python, PyTorch, Linux