YIRAN XU

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EDUCATION BACKGROUND

Ph.D. in Computer Science Aug. 2021 - Spring 2026 (expected)
University of Maryland, College Park, MD, USA
Ph.D. in Computer Engineering Aug. 2020 - Aug. 2021
Virginia Tech, Blacksburg, VA, USA **GPA: 4.00/4.00**
M.S. in Electrical and Computer Engineering Sept. 2018 - June. 2020
University of California, San Diego, CA, USA **GPA: 3.75/4.00**
B.E. in Electrical Engineering Sept. 2014 - Jun. 2018
South China University of Technology (SCUT), Guangzhou, China **GPA: 3.81/4.00**

PUBLICATIONS

Yiran Xu, Zhixin Shu, Cameron Smith, Seoung Wug Oh, Jia-Bin Huang. In-N-Out: Faithful 3D GAN Inversion with Volumetric Decomposition for Face Editing, CVPR 2024. [Project page, paper]

Yiling Qiao, Alexander Gao, **Yiran Xu**, Yue Feng, Jia-Bin Huang, Ming C. Lin. Dynamic Mesh-Aware Radiance Fields, ICCV 2023. [Project page, paper, code]

Ting-Hsuan Liao, Songwei Ge, **Yiran Xu**, Yao-Chih Lee, Badour AlBahar, Jia-Bin Huang. Text-driven Visual Synthesis with Latent Diffusion Prior, preprint. [Project page, paper]

Yiran Xu, Badour AlBahar, Jia-Bin Huang. Temporally Consistent Semantic Video Editing, ECCV 2022. [Project page, paper, code]

Yiran Xu, Xiaoyin Yang, Lihang Gong, Hsuan-Chu Lin, Tz-Ying Wu, Yunsheng Li, Nuno Vasconcelos. Explainable Object-induced Action Decision for Autonomous Vehicles, CVPR 2020. [Project page, paper]

RESEARCH EXPERIENCES

Research Intern, Adobe Research, San Jose May. 2023 - Aug. 2023
High-fidelity Video Super-Resolution
Mentors: Difan Liu, Yang Zhou, Taesung Park, Richard Zhang, Eli Shechtman, Feng Liu

- Video Super-Resolution (VSR) based upon GigaGAN aiming for high-fidelity details and textures.
- Large model training for general VSR purpose.

Research Intern, Adobe Research, Remote May. 2022 - Aug. 2022
3D GAN Inversion for Video Editing [Project page]
Mentors: Seoung Wug Oh, Zhixin Shu, Cameron Smith

- Split a video with *out-of-distribution* objects into two radiance fields
- Reconstructed two radiance fields separately
- Achieved high-fidelity video editing with *out-of-distribution* objects

Research Intern, Snap Research, Remote May. 2021 - Aug. 2021
Deformable Few-shot 3D Human Animation with NeRF
Mentors: Jian Ren, Zeng Huang, Sergey Tulyakov

- Few-shot 3D human body retargeting from the source.
- Used NeRF as rendering pipeline.
- Deformable fields built for canonicalization and dynamic scenes.

Research Assistant, Virginia Tech, VA Sept. 2020 - Nov. 2021
GAN Inversion for Videos [Project page]
Advisor: Jia-Bin Huang

- Reconstructed videos by using GAN inversion and improve the temporal consistency.
- Manipulated contents in the video semantically and also made it temporally consistent by using a flow-based approach.
- Accepted to ECCV 2022.

Research Assistant, UC San Diego, CA Mar. 2019 - Nov. 2019
Explainable Action Decision in Self-Driving [Project page]
Advisor: Nuno Vasconcelos

- Collected data from different Self-Driving datasets and annotated them with action and explanation. Proposed a new Self-Driving task and new dataset BDD-OIA.
- Proposed an object-centric network for action decision and explanation.
- Accepeted to CVPR2020.

PROFESSIONAL EXPERIENCE

Adobe Research, San Jose, CA, U.S.A May 2023 - Aug. 2023
Research Intern

Adobe Research, Remote, U.S.A May 2022 - Aug. 2022
Research Intern

Snap Research, Remote, U.S.A May 2021 - Aug. 2021
Research Intern

Eaton Corporation, Shenzhen, China July 2018 - Jan. 2019
Hardware Intern

ACADEMIC SERVICES

Conference reviewer: CVPR2024, ICLR2024, WACV2024, NeurIPS 2023, ICCV2023, CVPR2023, WACV2023, ECCV 2022, CVPR 2022, ICCV 2021

TECHNICAL SKILLS

Programming: Python, C/C++, MATLAB
Deep Learning Frameworks: Pytorch, Tensorflow