Wenqi (Wendy) Xian

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google scholar profile, LinkedIn profile

EDUCATION

Cornell University/Cornell Tech, New York, NY
Ph.D. in Computer Science 2018 – 2023
Advisor: Prof. Noah Snavely

Georgia Institute of Technology, Atlanta, GA
B.S. in Computer Science 2014 – 2018

RESEARCH INTERESTS

Computer Vision, Computational Photography, AR/VR. I am a research scientist at Netflix Eyeline Studios. I'm interested in the intersections of computer vision and graphics for 3D and video content creation, computational photography and videography.

EXPERIENCES

Netflix Eyeline Studios August. 2023 – Now
Research Scientist Los Angeles, CA
- Advanced photorealistic reconstruction with 3D Gaussian Splatting, significantly improving efficiency and reducing costs compared to traditional photogrammetry pipeline.
- Enhanced controllable video generation through implementing features of precise object and camera motion, relighting, personalization, and keyframing.
- Developed state-of-the-art models of video depth estimation and video super-resolution, for real-time composition in virtual film production.
- Building tools and working closely with artists to integrate AI tools into creative workflows.

Meta Reality Labs May. 2022 – Aug. 2022
Research Intern Sausalito, CA
Designed a neural camera model for rendering and optimizing scene representations end-to-end from raw photos and unknown camera parameters.

Meta Reality Labs Aug. 2021 – Nov. 2021
Research Intern Remote
Proposed a novel method to drive 2D image generation from 3D view point changes, enabling perpetual view generation from a single input image.

Meta Reality Labs May. 2020 – Aug. 2020
Research Intern Seattle, WA
Extended NeRF to dynamic scenes through video depth estimation for 3D video creation.

Adobe Research May. 2019 – Aug. 2019
Research Intern Seattle, WA
Proposed to improve video object removal by leveraging 3D reconstruction and geometry.

Adobe Research May. 2018 – Aug. 2018
Research Intern San Francisco, CA

Automated single image camera calibration for 3D object insertion in Adobe Dimension.

Berkeley Deep Drive Lab May. 2017 – Aug. 2017
Research Intern Berkeley, CA
Built an annotation tool and collected a large-scale driving dataset of 100K videos to facilitate object detection and tracking in autonomous driving research.

PUBLICATIONS

FlashDepth: Real-time Streaming Video Depth Estimation at 2K Resolution
Chou G.., **Xian W.**, Yang G., Abdelfattah M., Hariharan B., Snavely N., Deng Y., Yu N., Debevec P. *ICCV 2025 Spotlight*

Go-with-the-Flow: Motion-Control Video Diffusion Models Using Real-Time Warped Noise
Burgert R., Xu Y., **Xian W.**, Pilarski O., Clausen P., He M., Ma L., Deng Y., Li L., Mousavi M., Ryoo M., Debevec P., Yu N. *CVPR 2025 Oral*

Lux Post Facto: Learning Portrait Performance Relighting with Conditional Video Diffusion and a Hybrid Dataset
Mei Y., He M., Ma L., Philip J., **Xian W.**, George D., Yu X., Debic G., A. Tasel, Yu N., V Patel., Debevec P. *CVPR 2025*

Self-Calibrating Gaussian Splatting for Large Field of View Reconstruction
Deng Y., **Xian W**., Yang G., Guibas L., Wetzstein G., Marschner S., Debevec P. *ICCV 2025 Spotlight*

DifFRelight: Diffusion-Based Facial Performance Relighting
He M., Clausen P., Taşel A., Ma L., Pilarski O., **Xian W.,** Rikker L., Yu X., Burgert R., Yu N., Debevec P. *SIGGRAPH Asia 2024*

Neural Lens Modeling
Xian, W., Bozic A., Snavely, N., Lassner, C. *CVPR 2023*

FactorMatte: Redefining Video Matting for Re-Composition Tasks
Gu Z., **Xian, W.**, Snavely, N., Davis, A. *SIGGRAPH 2023*

Space-time Neural Irradiance Fields for Free-Viewpoint Video.
Xian, W., Huang J., Kopf, J., Kim, C. *CVPR 2021*

Stay Positive: Non-Negative Image Synthesis for Augmented Reality.
Luo, K., Yang, G.**, Xian, W**, Harald H., Hariharan B., Belongie S. *CVPR 2021 Oral*

Crowdsampling the Plenoptic Function.
Li, Z., **Xian, W.**, Davis, A., Snavely, N. *ECCV 2020 Oral*

BDD100K: A Diverse Driving Dataset for Heterogeneous Multitask Learning.
Yu F., Chen H., Wang X., **Xian, W.**, Chen Y., Liu F., Madhavan V., Darrell T. *CVPR 2020 Oral*

UprightNet: Geometry-Aware Camera Orientation Estimation from Single Images.
Xian, W.*, Li, Z.*, Fisher, M., Eisenmann, J., Schechtman, E., Snavely, N. *co-first *ICCV 2019*

Texturegan: Controlling Deep Image Synthesis with Texture Patches.
Xian, W.*, Sangkloy P.*, Agrawal, V., Raj, A., Lu J., Fang C., Yu F., Hays J. *co-first author
CVPR 2018 Spotlight Oral

AWARDS & FELLOWSHIP

Microsoft Ada Lovelace Research Fellowship 2020 2020
World Second Place Winner of Microsoft Imagine Cup 2017 2017
President's Undergraduate Research Award 2017

SERVICE

Paper reviewer of ICCV, CVPR, ECCV, SIGGRAPH, NeurIPS etc.
Teaching assistant: Deep Learning (Spring 2019), Virtual & Augmented Reality (Fall 2019), Computer Vision (Spring 2020, Spring 2022)