

# WENQI (WENDY) XIAN

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## EDUCATION

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**Cornell University/Cornell Tech**, New York, NY

Ph.D. Candidate in Computer Science

2018 – 2023 (expected)

Advisor: Prof. Noah Snavely

**Georgia Institute of Technology**, Atlanta, GA

B.S. in Computer Science

2014 – 2018

## RESEARCH INTERESTS

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**Computer Vision, Computational Photography, AR/VR.** I'm interested in the intersections of computer vision and graphics for 3D content creation, computational photography and videography. The involved techniques include neural rendering, inverse rendering, novel view synthesis and camera calibration.

## PUBLICATIONS

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### 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 author

*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***

## **Bdd100k: A Diverse Driving Video Database with Scalable Annotation Tooling.**

Yu F., **Xian, W.**, Chen, Y., Liu, F., Liao, M., Madhavan V., Darrell T.  
*Technical Report: 1805.04687*

### EXPERIENCES

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#### **Meta Reality Labs**

May. 2022 – Aug. 2022  
Sausalito, CA

*Research Intern*

Advisors: Christoph Lassner

Proposed 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  
Seattle, WA

*Research Intern*

Advisors: Changil Kim, Johannes Kopf, Jia-Bin Huang

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  
Seattle, WA

*Research Intern*

Advisors: Changil Kim, Johannes Kopf, Jia-Bin Huang

Extended NeRF to dynamic scenes through video depth estimation for free-viewpoint rendering.

#### **Adobe Research**

May. 2019 – Aug. 2019  
Seattle, WA

*Research Intern*

Advisors: Oliver Wang, Matt Fisher, Eli Schechtman

Proposed to improve video object removal by leveraging 3D reconstruction and geometry.

#### **Adobe Research**

May. 2018 – Aug. 2018  
San Francisco, CA

*Research Intern*

Advisors: Matt Fisher, J Eisenmann, Eli Schechtman

Designed a deep learning model for single image camera calibration, enabling natural object insertion and Augmented Reality applications.

#### **Berkeley Deep Drive Lab**

May. 2017 – Aug. 2017  
Berkeley, CA

*Research Intern*

Advisors: Trevor Darrell, Fisher Yu

Built an annotation tool and collected a large-scale driving dataset of 100K videos to facilitate object detection and tracking in autonomous driving research.

### AWARDS & FELLOWSHIP

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**Microsoft Ada Lovelace Research Fellowship 2020**

2020

**World Second Place Winner of Microsoft Imagine Cup 2017**

2017

**President's Undergraduate Research Award**

2017

## SERVICE

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**Paper reviewer of ICCV, CVPR, ECCV, SIGGRAPH, etc.**

**Teaching assistant:** Deep Learning (Spring 2019), Virtual & Augmented Reality (Fall 2019),  
Computer Vision (Spring 2020, Spring 2022)

## SKILLS

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Programming Languages: Python, Go, MATLAB, C/C++, HTML, JavaScript, Java

Tools: PyTorch, TensorFlow, Torch, OpenCV