

# Tianfu Wang

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## EDUCATION

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### University of Maryland

Ph.D. student, Computer Science

College Park, USA

08. 2024 –

### ETH Zurich

M.S. in Computer Science, with distinction, GPA 5.75/6.0

Zurich, Switzerland

09. 2021 – 07.2024

### Northwestern University

B.S. in Computer Science and Mathematics, Magna Cum Laude, GPA 3.94/4.0

Evanston, IL, USA

09. 2017 – 06. 2021

## EXPERIENCE

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### Intelligent Sensing Lab, University of Maryland, College Park

08. 2024 –

Research Assistant

- Ph.D. Student under the supervision of Prof. Christopher Metzler

### Photogrammetry and Remote Sensing, ETH Zurich

07. 2023 – 07.2024

Research Assistant

- Master's thesis project on fast and flexible diffusion image generation, supervised by Prof. Konrad Schindler

### Computer Vision Lab, ETH Zurich

04. 2022 – 07.2023

Research Assistant

- Worked with Menelaos Kanakis and Anton Obukhov on neural radiance fields and diffusion models, supervised by Prof. Luc Van Gool

### Computational Photography Lab, Northwestern University

01. 2020 – 09.2021

Research Assistant

- Worked with Prof. Oliver Cossairt and Prof. Florian Willomitzer on structured light imaging and eye tracking with deflectometry.
- Worked with Prof. Jack Tumblin on smooth particle hydrodynamics (SPH) fluid simulation and visualization (URG Advanced Student Grant)

## PUBLICATIONS

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### Accurate Eye-Tracking from Deflectometric Information Using Deep Learning

Jiwon Choi, Jiazhang Wang, **Tianfu Wang**, Florian Willomitzer

International Conference on Optics-Photonics Design and Fabrication (ODF), 2024 (**Student Paper Award**)

### Consistency<sup>2</sup>: Consistent and Fast 3D Painting with Latent Consistency Models

**Tianfu Wang**, Anton Obukhov, Luc Van Gool

CVPR Workshop on AI for 3D Generation, 2024

### Optimization-Based Eye Tracking using Deflectometric Information

**Tianfu Wang**, Jiazhang Wang, Oliver Cossairt, Florian Willomitzer

IEEE Transactions on Computational Imaging (TCI), 2024

### DGInStyle: Domain Generalizable Semantic Segmentation with Image Diffusion Models and Stylized Semantic Control

Yuru Jia, Lukas Hoyer, Shengyu Huang, **Tianfu Wang**, Luc Van Gool, Konrad Schindler, Anton Obukhov

ECCV, 2024

### Breathing New Life into 3D Assets with Generative Repainting

**Tianfu Wang**, Menelaos Kanakis, Konrad Schindler, Luc Van Gool, Anton Obukhov

British Machine Vision Conference (BMVC), 2023 (**Oral**)

## **Accurate Eye Tracking from Dense 3D Surface Reconstructions using Single-Shot Deflectometry**

Jiazhang Wang, **Tianfu Wang**, Bingjie Xu, Oliver Cossairt, Florian Willomitzer

Submitted to Nature Communications, in review, 2023

## **Accurate and Fast VR Eye-Tracking using Deflectometric Information**

Jiazhang Wang, **Tianfu Wang**, Bingjie Xu, Oliver Cossairt, Florian Willomitzer

Optica Computational Optical Sensing and Imaging, 2023

## **VR Eye-Tracking using Deflectometry**

Jiazhang Wang, Bingjie Xu, **Tianfu Wang**, Wung Jae Lee,

Marc Walton, Nathan Matsuda, Oliver Cossairt, Florian Willomitzer

Optica Computational Optical Sensing and Imaging, 2021

## **A Mitsuba-based Study on Trade-offs Between**

## **Projection and Reflection Based Systems in Structured-Light 3D Imaging**

**Tianfu Wang**, Florian Schiffrers, Florian Willomitzer, Oliver Cossairt

Optica Computational Optical Sensing and Imaging, 2021

## TALKS

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### **Breathing New Life into 3D Assets with Generative Repainting**

British Machine Vision Conference (BMVC)

Aberdeen, United Kingdom, Nov. 2023

### **Optimization-Based Eye Tracking using Deflectometric Information**

124th Annual Meeting of the German Branch of the European Optics Society (DGaO)

Berlin, Germany, May. 2023

### **A Mitsuba-based Study on Trade-offs Between**

### **Projection and Reflection Based Systems in Structured-Light 3D Imaging**

Optica Imaging and Applied Optics Congress

Washington, DC, United States, July. 2021

## SCHOLARSHIPS

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### **University of Maryland Graduate School Dean's Fellowship**

\$2500/yr fellowship for 2 years supporting graduate studies.

2024

### **Northwestern University Summer Undergraduate Research Grant Advanced (SURG Advanced)**

\$3500 research grant for Modeling and Analysis of Real Time 3D SPH Fluid Simulation on WebGL

Supervised by Prof. Jack Tumblin, 2020

## TECHNICAL SKILLS

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**Programming:** Python, C++, PyTorch, PyTorch3D, Blender

**Language:** Mandarin(Native); English(Proficient)