Tianfu Wang

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Education

University of Maryland — **College Park, USA**
Ph.D. student, Computer Science — 08. 2024 –

ETH Zurich — **Zurich, Switzerland**
M.S. in Computer Science, with distinction, GPA 5.75/6.0 — 09. 2021 – 07.2024

Northwestern University — **Evanston, IL, USA**
B.S. in Computer Science and Mathematics, Magna Cum Laude, GPA 3.94/4.0 — 09. 2017 – 06. 2021

Experience

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

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^2: Consistent and Fast 3D Painting with Latent Consistency Models
Tianfu Wang, Anton Obukhov, Konrad Schindler
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 Schiffers, Florian Willomitzer, Oliver Cossairt
Optica Computational Optical Sensing and Imaging, 2021

Talks

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

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

Programming: Python, C++, PyTorch, PyTorch3D, Blender
Language: Mandarin(Native); English(Proficient)