

Yanqiao Wang

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EDUCATION

UNIVERSITY OF GEORGIA

Athens, GA

Doctor of Philosophy, Computer Science, GPA: 3.69/4.00

Jan. 2024 - Dec. 2028

Relevant Course: Advanced Representation Learning, Optimization for AI

CARNEGIE MELLON UNIVERSITY

Pittsburgh, PA

Master of Science, Electrical and Computer Engineering, GPA: 3.58/4.00

Aug. 2021 - May 2023

Relevant Course: Machine Learning for Signal Processing, Pattern Recognition, Computer Vision

VIRGINIA TECH

Blacksburg, VA

Bachelor of Science, Electrical Engineering, GPA: 3.81/4.00 (*Summa Cum Laude*)

Aug. 2017 - May 2021

SKILLS

Technical Skills: Transformer Structure, Neural Rendering Pipeline, Video Diffusion Model

Languages/Frameworks: Python, TensorFlow, Pytorch, C++, C, Java, MATLAB, SQL

Tools/Platforms: Blender, Git, Pandas, Numpy, Matplotlib, Unity, Jupyter Notebook

RESEARCH EXPERIENCE

University of Georgia School of Computing

Athens, GA

Graduate Research Assistant

Jan. 2024 - Present

Spatially Variant Lighting in Complex 3D Reconstruction Scenes

- Implementing high-dynamic-range (HDR) image processing within neural radiance field (NeRF) frameworks
- Achieving photorealistic lighting effects and developed custom environment maps based on user-defined positions, significantly enhancing rendering realism.
- Integrating Blender for precise lighting and shadow rendering, capturing complex spatial variations and elevating the visual fidelity of 3D scenes.

Realistic 3D Human Scene Dataset Creation

- Designing a diverse dataset by embedding 3D human models into various background with tailored lighting for both models and scenes, achieving realistic visuals
- Applying adaptive lighting techniques, making the dataset versatile for various computer vision and machine learning tasks

Visual Intelligence Studio at CyLab

Pittsburgh, PA

Graduate Research Assistant.

May 2022 - Jan. 2023

- Developed an Android app using OpenCV and Android Studio, providing augmented reality assistance for visually impaired users
- Programmed 3D Scanner design using Photometric Stereo and Fringe Projection methods using OpenCV library

WORK EXPERIENCE

ArcSoft, Inc.

Hangzhou, China

Computer Vision Algorithm Engineer Intern

June 2023 - Sept. 2023

- Developed a robust noise estimation model from scratch for No-Reference Image Quality Assessment, achieving a correct estimation accuracy of 91.3% across both smooth and texture-rich regions
- Collaborated with multiple teams to design and optimize a versatile video automation testing platform, accommodating requirements for anomaly detection, multi-camera switching, frame synch, and fluency testing.
- Leveraged ORB, SIFT, Optical Flow, and other advanced algorithms to enhance testing accuracy and efficiency, creating a unified, scalable solution for comprehensive video quality evaluation

PROJECT EXPERIENCE

Computer Vision

Jan. 2023 - May 2023

- Implemented Spatial Pyramid Matching and PyTorch Neural Network to do scene classification, Lucas-Kanade to track an object in consecutive photos, and planar homographs to implement an AR application and panorama

Deepfake Detection

Sept. 2022 - Dec. 2022

- Performed data pre-processing, data augmentation, and feature extraction to a subset of Kaggle Deepfake Detection
- Operated depth-wise separable convolution model (Xception) for training and evaluated 400 videos using CNN model

Dual Axis Powered Ankle Prosthetic

Aug. 2020 - May 2021

- Led to build control system block diagram and FSM for microcontroller, and used Arduino to control the actuator