

Haoyu Wu

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Education

Stony Brook University, NY

Ph.D. in Computer Science

Sept. 2020 - Present

GPA 4.0/4.0. Advised by Prof. Dimitris Samaras

The Chinese University of Hong Kong, Shenzhen, China

B.S. in Statistics

Sept. 2016 - Jun. 2020

GPA 3.6/4.0. Core GPA 3.9/4.0 & **Rank 3/151**

Experience

Research Assistant

Stony Brook University, NY

Sept. 2020 - Present

- Used classifier-free guidance to identify important tokens, which enables more effective token merging during 2D/3D/Video diffusion model inference.
- Combined neural volumetric surface reconstruction methods with multi-view stereo for fast and robust sparse-view 3D reconstruction.
- Supervisor: Prof. Dimitris Samaras

Applied Scientist Intern

Amazon

Jun. 2023 - Aug. 2024

- Proposed a novel image-to-3D framework that scales well toward high resolution by generating explicit surface geometry and texture.
- Supervisor: Sunil Hadap

Research Assistant

The Chinese University of Hong Kong, Shenzhen, China

Jan. 2019 - Jun. 2020

- Low-level vision tasks. Won 1st place in Raw to RGB Image Mapping Challenge (ICCV'19).
- Supervisor: Prof. Rui Huang

Research Intern

University of Ottawa, Canada

Jun. 2019 - Aug. 2019

- Research related to person re-identification. Supervisor: Prof. Robert Laganière

Publications

Importance-based Token Merging for Diffusion Models

Haoyu Wu, Jingyi Xu, Hieu Le, Dimitris Samaras

In submission, arXiv 2024

Direct and Explicit 3D Generation from a Single Image

Haoyu Wu, Meher Gitika Karumuri, Chuhan Zou, Seungbae Bang, Yuelong Li, Dimitris Samaras, Sunil Hadap

International Conference on 3D Vision, 3DV 2025

MLI-NeRF: Multi-Light Intrinsic-Aware Neural Radiance Fields

Yixiong Yang, Shilin Hu, Haoyu Wu, Ramon Baldrich, Dimitris Samaras, Maria Vanrell

International Conference on 3D Vision, 3DV 2025

S-VolSDF: Sparse Multi-View Stereo Regularization of Neural Implicit Surfaces

Haoyu Wu, Alexandros Graikos, Dimitris Samaras

International Conference on Computer Vision, ICCV 2023

HighEr-Resolution Network for Image Demosaicing and Enhancing

Kangfu Mei, Juncheng Li, Jiajie Zhang, Haoyu Wu, Jie Li, Rui Huang
International Conference on Computer Vision Workshops, ICCVW 2019

Teaching

Stony Brook University

CSE 527: Introduction to Computer Vision

Spring 2021 & Fall 2022

IAE 101: Digital Intelligence

Fall 2021

Awards

Dean's List Award, School of Science and Engineering, CUHK(SZ)

2017 - 2020

Master's List, Shaw College, CUHK(SZ)

2018 - 2019