

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 [\[pdf\]](#)

Haoyu Wu, Jingyi Xu, Hieu Le, Dimitris Samaras

In submission, arXiv 2024

Direct and Explicit 3D Generation from a Single Image [\[pdf\]](#)

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 [\[pdf\]](#)

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 [\[pdf\]](#)

Haoyu Wu, Alexandros Graikos, Dimitris Samaras

International Conference on Computer Vision, ICCV 2023

HighEr-Resolution Network for Image Demosaicing and Enhancing [\[pdf\]](#)

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