

# Haoyu Wu

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## Education

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### **Stony Brook University, NY**

*Ph.D. student 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

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### **Research Assistant**

*Stony Brook University, NY*

*Sept. 2020 - Present*

- Use classifier-free guidance to identify important tokens, which enables more effective token merging during diffusion model inference.
- Combine 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

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### **Importance-based Token Merging for Diffusion Models**

**Haoyu Wu**, Jingyi Xu, Hieu Le, Dimitris Samaras

*In Submission, 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

*3DV, 2025*

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

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

*3DV, 2025*

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

**Haoyu Wu**, Alexandros Graikos, Dimitris Samaras

*ICCV, 2023*

## HighEr-Resolution Network for Image Demosaicing and Enhancing

Kangfu Mei, Juncheng Li, Jiajie Zhang, **Haoyu Wu**, Jie Li, Rui Huang  
*ICCV Workshop*, 2019

## Teaching

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### **Stony Brook University**

CSE 527: Introduction to Computer Vision

Spring 2021 & Fall 2022

IAE 101: Digital Intelligence

Fall 2021

## Awards

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

2017 - 2020

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

2018 - 2019