

# Hung-Yueh Chiang

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## Career

### Software Engineering Intern, Rivian, Palo Alto CA, USA

Jun. 2023 – Aug. 2023

- Neural Architecture Search (NAS) for 3D object detection

### Research Scientist Intern, Amazon, Seattle (Remote), USA

May 2022 – Nov. 2022

- Image synthesis and generation for shoe virtual try-on with diffusion models
- The intern project was accepted in Amazon Machine Learning Conference (AMLC) as a long presentation: Shoe-ViTOn: Detail-Preserving Virtual Shoe Try-On with Dual Conditional Diffusion Models.

### XYZ Robotics, Shanghai

Jun. 2019 - May 2021

- Developed production-level deep learning vision systems on logistic robots
- Developed a multi-modal (image, depth, and normal) segmentation model for predicting best picking area on the objects
- Synthesized training data with Blender for unseen items to improve the model's generalization
- Develop deep learning services (segmentation/object detection) with Robot Operating System (ROS) in products

## Skills and Tools

Programming language: C/C++ (Boost, PCL, OpenCV, OpenNI), Python (Numpy, Matplotlib, PyQt,

Tkinter) Learning framework: Tensorflow, Pytorch (Python and C++), MXNet, ONNX

CUDA Libraries: CUTLASS, cuBLAS, cuSPARSE, PTX

Tools: Linux, Git, Google Test, Google Log, CMake, Pylint, Clang-format, yapf, Blender

## Education

### The University of Texas at Austin

Sep. 2021 – 2026 (anticipated)

Ph.D. in Electrical and Computer Engineering

Affiliation: Energy-Aware Computing Group (EnyAC)

Research Direction: Efficient ML

Advisor: Prof. Diana Marculescu

### National Taiwan University

Sep. 2016 - Sep. 2018

M.S. in Computer Science and Information Engineering (GPA: 3.87/4.3)

Affiliation: NVIDIA-NTU AI Lab

Thesis: A Unified Point-Based Framework for 3D Segmentation (Top performing on ScanNet in 2018)

Advisor: Prof. Winston Hsu

### ETH Zurich

Jan. 2015 - Sep. 2015

Undergraduate Exchange Program

### National Yang Ming Chiao Tung University

Sep. 2011 - Sep. 2015

B.S. in Computer Science Elite Program (GPA: 4.08/4.3)

## Honors and Awards

- Engineering Fellowship from The University of Texas at Austin Graduate School, 2021
- Second Place at ScanNet benchmark and invited talk at CVPR 2019

## Selected Publications (\* Equal contribution)

- *Quamba: A Post-Training Quantization Recipe for Selective State Space Models.* **Hung-Yueh Chiang\***, Chi-Chih Chang\*, Natalia Frumkin, Kai-Chiang Wu, and Diana Marculescu, Under review 2024
- *SCAN-Edge: Finding MobileNet-speed Hybrid Networks for Diverse Edge Devices via Hardware-Aware Evolutionary Search.* **Hung-Yueh Chiang** and Diana Marculescu, ICLR Workshop 2024
- *Cache and Reuse: Rethinking the Efficiency of On-device Transfer Learning.* Yuedong Yang, **Hung-Yueh Chiang**, Guihong Li, Diana Marculescu, Radu Marculescu, CVPR Workshop 2024
- *Efficient Low-rank Backpropagation for Vision Transformer Adaptation.* Yuedong Yang, **Hung-Yueh Chiang**, Guihong Li, Diana Marculescu, Radu Marculescu, NeurIPS 2023
- *MobileTL: On-device Transfer Learning with Inverted Residual Blocks.* **Hung-Yueh Chiang**, Natalia Frumkin, Feng Liang, and Diana Marculescu, AAAI 2023 (**Oral**)
- *A Unified Point-based Framework for 3D Point Cloud Segmentation.* **Hung-Yueh Chiang**, Yen-Liang Lin, Yueh-Chen Liu, Winston Hsu. 3DV 2019