



YU-CHENG HSIEH

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Technical Skills

Languages: Python, C/C++, HTML/CSS, JavaScript, Matlab

Technologies/Frameworks: Linux, Git, GitHub, Pytorch, L^AT_EX

Education

National Tsing Hua University

Sep. 2018 – June 2022

Bachelor of Engineering and System Science

Hsinchu, Taiwan

- **Overall GPA** : 3.89/4.30, ranked 10/90
- **Undergraduate Research** : Utilizing bio-convolution and first order difference on identification and verification of electrocardiogram.

National Tsing Hua University

Sep. 2022 – June 2024 (expected)

Master of Electrical Engineering

Hsinchu, Taiwan

- **Overall GPA** : 4.21/4.30
- **Vision science lab(VSlab)**
- **Current research:** 360 Indoor scene understanding.

Publication

PanoMixSwap Panorama Mixing via Structural Swapping for Indoor Scene Understanding *BMVC 2023*

Yu-Cheng Hsieh, Cheng Sun, Suraj Dengale, Min Sun

[\[Paper\]](#)

- Introduce a novel panoramic data augmentation method that improves performance on panoramic downstream tasks

Teaching

Teaching Assistant, Computer Vision (EE6485)

Fall 2023

Dept. of Electrical Engineering, National Tsing Hua University

Awards

Academic Achievement Award

Spring 2020, Fall 2020

- The award for achieving a 5% ranking in the semester.

Projects

Introduction to Programming: Room Escape+Shooting Game | C/C++

[\[Code\]](#) | Spring 2021

- Design a game where the character is shot into a house by enemies. Control the character to collect jet pieces (similar to room escape games) to assemble a jet, then use the jet to engage in combat with the enemies (like a shooting game).

Artificial Intelligence: Course Selector | Python

[\[Code\]](#) | Fall 2021

- Apply the Genetic Algorithm to train a course selector that helps students to choose courses optimally.

Image Processing: Photoshop-like Application | Python/Matlab

Fall 2021

- Leverage Seam Carving algorithm to beautify selfies, make faces and legs much slimmer, and remove a mole.

Music Information Retrieval: Audio Mosaicing | Python

Spring 2022

- Employ audio mosaicing to blend casually hummed vocals with popular songs, creating the illusion of singing those popular tunes.

Robotic Navigation and Exploration: Control JetBot | Python

Spring 2022

- Train a ResNet-based model that enables the JetBot to navigate designated tracks while evading obstacles.

Computer Vision: Real-time Fighting Game | Python

[\[Code\]](#) | Fall 2022

- Develop a two-player fighting game using real-time human pose estimation for avatar control through poses.
- Utilize GAN-based face morphing for avatars to shift between different looks smoothly.

Extracurricular

NTHU TAA Winter Camp

Jan. 2019

- Bring joy and love to students in rural elementary school.

NTHU ESS Camp

Jul. 2019

- Teach high school students to implement some basic electric circuits and visit Industrial Technology Research Institution.