

# YU-CHENG HSIEH

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🌐 [LinkedIn](#)

🐙 [Github](#)

🌐 [Personal Website](#)

## Technical Skills

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

**Technologies/Frameworks:** Linux, Git, GitHub, Pytorch, L<sup>A</sup>T<sub>E</sub>X

## Education

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### 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

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### PanoMixSwap Panorama Mixing via Structural Swapping for Indoor Scene Understanding

BMVC 2023

[\[Paper\]](#) [\[Code\]](#) [\[Website\]](#)

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

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

## Experience

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### MediaTek Research

Dec 2023 – April 2024 (Expected)

*Deep Learning & Software Intern*

*Taipei Taiwan*

- Working with colleagues from MediaTek Research Cambridge.
- (Expected) Developing and Testing tools that employ artificial intelligence based methods to generate testcases for ASIC design verification.

## Awards

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### Academic Excellence Award

Spring 2020, Fall 2020

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

### National Science and Technology Council Scholarship

Fall 2023

## Teaching

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### Teaching Assistant, Computer Vision (EE6485)

Fall 2023

*Dept. of Electrical Engineering, National Tsing Hua University*

## Projects

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### Introduction to Programming: Room Escape+Shooting Game | C/C++ [\[Code\]](#) [\[Website\]](#) | 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).

### 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.

### Artificial Intelligence: Course Selector | Python

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

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

### 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 NVIDIA JetBot | Python

Spring 2022

- Train a ResNet-based model that enables the NVIDIA 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.