

# YU-CHENG HSIEH

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## Technical Skills

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

**Technologies/Frameworks:** Linux, Git, Pytorch, VScode, Android Studio, GitHub, Hugging Face, L<sup>A</sup>T<sub>E</sub>X

## 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-convolutions 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**

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

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

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

## Experience

**MediaTek Research**

**Dec 2023 – April 2024 (Expected)**

*Deep Learning & Software Intern*

*Taipei Taiwan*

- Help with training a large-scale Chinese language model and related tasks.
- Deploy LLM models on an Android-powered mobile device.
- Testing and Revising tools that employ artificial intelligence methods to generate testcases for ASIC design verification.

## Awards

**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

**Teaching Assistant, Computer Vision (EE6485)**

**Fall 2023**

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

## Projects

**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.