Yu-Cheng Hsieh

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Technical Skills

Programming Languages: Python, C/C++, HTML/CSS, JavaScript, MySQL, Kotlin, Matlab, Shell Script
Technologies/Frameworks: Linux, Git, Pytorch, VScode, Android Studio, GitHub, Hugging Face, LaTeX

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   BMVC 2023
Indoor Scene Understanding   [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
Deep Learning & Software Intern   *Taipei Taiwan*
- Help with training a large-scale Chinese language model and related tasks.
- Design apps that utilize accessibility service in Android platform and LLM.
- Test and Revise tools that employ artificial intelligence methods to generate testcases for ASIC design verification.

Roku   May 2024 – August 2024
Machine Learning Intern   *Hsinchu Taiwan*
- Generate new scene classes to Roku's dataset, then train and fine-tune MobileNetV3 on scene classification tasks.
- Deploy a model on Roku TV to classify screen content in real-time and apply different picture quality settings (contrast, clarity, color) based on the detected scene.

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.