Chih-Chieh Yang

M.S., Dept. of Photonics, Yang Ming Chiao Tung University 2021 - Present

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A graduate student majoring in photonics from National Yang Ming Chiao Tung University, dedicated to the studies of imaging from the optics viewpoint, and being good at applying programming skills to slove numerical problems. Combining domain knowledge with programming skills helps me figure out and solve more advanced problems. My recent research is depth-based fall detection in embedded systems.

Education

- M.S., Department of Photonics, Yang Ming Chiao Tung University Sep 2021 - Present
- B.S., Department of Photonics, Yang Ming Chiao Tung University Sep 2017 – Jul 2021 (GPA 3.97 / 4.0)

Professional Skills

Field	Description
Optics	Geometric optics, Fourier optics
Computer Vision	Object detection, Segmentation
Image Processing	Feature engineering, Color engineering

Internship and experiences

- Intern, Taiwan Semiconductor Manufacturing Co., Ltd., Hsinchu Jul 2022 – Sep 2022
  - Developed a web-based desktop app capable of generating measurement reports automatically
  - Full stack in backend (Python: FastAPI) and frontend (HTML+CSS+JavaScript)
- Participant, APEC APP Challenge, Thailand May 2022
  - Developed a web-based PWA APP aiming to providing a platform to gather small farmers
- Research assistant, Chung-Hua Institution for Economic Research, Hsinchu Remote Jul 2021 – Present
  - Help discover useful information in the database of the waste management system
  - Design a model to predict recycled raw materials from target wastes
- TA, The Language of Technical Computing (DEO1611), NYCU 2021 spring, 2022 spring
  - Python tutorial for basic syntax, Numpy, Scipy, Matplotlib and image transformation
- TA, Linear Algebra (DEO1203), NYCU 2021 spring

Side Proejcts

- Migraine Prediction Based on Iris Feature Analysis Using Deep Learning
  - Developed a non-invasive migraine prediction approach by analyzing visual attributes
  - Extracted iris images at both eyes to color features in multiple color spaces
- Image Colorization with Convolutional Neural Networks: Attention U-Net
  - Developed an image colorization model based on Attention U-Net
  - Predicts the channels of a grayscale image in CIE Lab color space to a colorized image
- Embedded Real-Time Fall Detection for Edge Computing Using Deep Learning
  - Developed an embedded visual system detecting the falls by depth video in multiple views
  - Based on MoViNets, successfully achieved 99.21% accuracy

Awards

- Academic Excellence Award (2020 Fall / 2019 Fall / 2018 Spring / 2018 Fall / 2017 Spring)
  - The student whose semester grade is ranked the top 5% of the class