Pei-Chi Chen

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EDUCATION

M.S., National Yang Ming Chiao Tung University *Sep. 2022 – Aug. 2024*
Graduate Degree program of Artificial Intelligence *Hsinchu, Taiwan*
- Thesis: Enhancing Coherence and Fidelity in Camouflaged Image Generation
- Advised by Prof. Hong-Han Shuai and Prof. Wen-Huang Cheng
- Selected courses: *Applied Computer Vision, Cloud Computing and Big Data Analysis, Optimization Theory and Application, Information Theory*

B.C., National Tsing Hua University *Sep. 2018 – Jun. 2022*
Engineering and System Science *Hsinchu, Taiwan*
- GPA: 4.17 / 4.3 (Ranked 1 / 90)
- Selected courses: *Numerical Analysis, Introduction to Machine Learning, Introduction to Image Processing, Probability and Statistics, Introduction to Artificial Intelligence, Queuing Theory, Computer Architecture*

EXPERIENCE

Institute of Information Science, Academia Sinica *Oct. 2024 – Present*
Research Assistant *Taipei, Taiwan*
- Action selection in Diffusion Policy for robotic manipulation tasks
- Advised by Dr. Tyng-Luh Liu
- Co-advised by Prof. Hwann-Tzong Chen in NTHU and Prof. Tsung-Wei Ke in NTU

PUBLICATIONS

[1] **Pei-Chi Chen**, Yi Yao, Chan-Feng Hsu, Hongxia Xie, Hung-Jen Chen, Hong-Han Shuai, Wen-Huang Cheng. **Foreground Focus: Enhancing Coherence and Fidelity in Camouflaged Image Generation.** ICME **(oral)**, 2025. paper

[2] Li-Wu Tsao, Hao-Tang Tsui, Yu-Rou Tuan, **Pei-Chi Chen**, Kuan-Lin Wang, Jhih-Ciang Wu, Hong-Han Shuai, Wen-Huang Cheng. **TrajPrompt: Aligning Color Trajectory with Vision-Language Representations.** ECCV 2024. paper

[3] Dinesh Bhalothia, Wei-Hao Hsiung, Shou-Shiun Yang, Che Yan, **Pei-Chi Chen**, et al. **Submillisecond Laser Annealing Induced Surface and Subsurface Restructuring of Cu–Ni–Pd Trimetallic Nanocatalyst Promotes Thermal CO_2 Reduction.** ACS Appl. Energy Mater. 2021. paper

HONORS AND SCHOLARSHIPS

2023	Foxconn Technology & NYCU Scholarship
2022	Foxconn Technology & NYCU Scholarship
2022	GARMIN Scholarship
2022	FamilyMart AI Scholarship
2022	Phi Tau Phi Scholastic Honor Society – Honorary Membership
2020	Dr. Shun-yi Chu Zyxel Scholarship
2018∼2022	Outstanding Academic Achievement Award (6 of 8 semesters)

PROFESSIONAL SERVICES

2025	**Reviewer**, IEEE International Conference on Advanced Video and Signal-Based Surveillance (AVSS)
2025	**Reviewer**, IEEE International Conference on Multimedia & Expo (ICME)

PROJECTS

Traffic Light Detection and Recognition (in collaboration with GARMIN) *Sep. 2022 – Jun. 2023*
- Developing a system for detecting traffic lights and countdown timers under various weather conditions.
- Addressing the data scarcity issue in vertical traffic light countdown detection and recognition, **improving accuracy from 24.3% to 75.7%**

Histone Image Reconstruction *Sep. 2021 – Jan. 2022*
- Reconstructing H2B histone fluorescence images from COBRI inputs using U-Net architecture.

Lung Tumor Segmentation *Spring, 2021*
- Employing a dual-branch CNN to segment tumor regions from fluorescence microscopy images.
- **Reaching an accuracy of 91.3%.**

Analysis of Atomic Lattices *Spring, 2021*
- Analyzing lattice structures in material high-resolution TEM images using image processing techniques to identify atom types.
- The project was accepted by ACS Appl. Energy Mater. (please refer to Publications)

INVITED TALKS

2025	A Step-by-Step Guide to Paper Reading and Presentation, invited by Prof. HongXia Xie, Jilin University, China