YI-CHUNG CHEN

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EDUCATION

Purdue University, West Lafayette, Indiana, United States *Sep 2024 - present*
Ph.D. in Electrical and Computer Engineering

- Advisors: Prof. Jing Gao and Prof. David Inouye

- GPA: 4.0 / 4.0

National Taiwan University (NTU), Taipei, Taiwan *Sep 2021 - June 2023*
M.S. in Communication Engineering, (Data Science Group)

- Advisor: Prof. Ming-Syan Chen

- GPA: 4.25 / 4.3

National Yang Ming Chiao Tung University (NYCU), Hsinchu, Taiwan *Sep 2017 - June 2021*
B.S. in Electronics Engineering

- Advisors: Prof. Weng-Huang Cheng and Prof. Hong-Han Shuai

- GPA: 3.91 / 4.3

RESEARCH INTERESTS

My primary research interest lies in **trustworthy machine learning**, with a focus on advancing **robustness** and **explainability** to enable reliable AI applications. My recent work investigates **conditional generative models** for **image classification**, which offer promising advantages in robustness and explainability. In the past, I have explored various topics including **image enhancement**, **image generation**, **diffusion model quantization**, and **federated learning**.

PUBLICATION

Chen, Yi-Chung, Inouye, David, & Gao, Jing (2025). Your VAR Model is Secretly an Efficient and Explainable Generative Classifier. (ICLR 2026)

Chen, Yi-Chung, Huang, Zhi-Kai, & Chen, Jing-Ren (2024). StepbaQ: Stepping backward as Correction for Quantized Diffusion Models. Neural Information Processing Systems. (NeurIPS 2024)

Chen, Yi-Chung, Chen, Hsi-Wen, Wang, Shun-Gui, & Chen, Ming-Syan (2023). SPACE: Single-round Participant Amalgamation for Contribution Evaluation in Federated Learning. Neural Information Processing Systems. (NeurIPS 2023)

Chen, Chieh-Yun*, **Chen, Yi-Chung***, Shuai, Hong-Han, & Cheng, Wen-Huang (2023). Size Does Matter: Size-aware Virtual Try-on via Clothing-oriented Transformation Try-on Network. IEEE/CVF International Conference on Computer Vision. (ICCV 2023)

Yang, Hao-Hsiang, Chen, I-Hsiang, Hsieh, Chia-Hsuan, Chang, Hua-En, Chiang, Yuan-Chun, **Chen, Yi-Chung**, Huang, Zhi-Kai, Chen, Wei-Ting, & Kuo, Sy-Yen (2023). Semantic Guidance Learning for High-Resolution Non-Homogeneous Dehazing. IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops (CVPRW 2023).

Chang, Hua-En, Hsieh, Chia-Hsuan, Yang, Hao-Hsiang, Chen, I-Hsiang, **Chen, Yi-Chung**, Chiang, Yuan-Chun, Huang, Zhi-Kai, Chen, Wei-Ting, & Kuo, Sy-Yen (2023). TSRFormer: Transformer-Based Two-Stage Refinement for Single-Image Shadow Removal. IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops (CVPRW 2023).

Chen, Yi-Chung, Huang, Zhi-Kai, Pang, Lu, Jiang-Lin, Jian-Yu, Kuo, Chia-Han, Shuai, Hong-Han, & Cheng, Wen-Huang (2023). Seeing the Unseen: Wifi-based 2D Human Pose Estimation via an Evolving Attentive Spatial-Frequency Network. Pattern Recognition Letters. (PRL 2023)

Chang, Chi-Rung, Lung, Kuan-Yu, **Chen, Yi-Chung**, Huang, Zhi-Kai, Shuai, Hong-Han, & Cheng, Wen-Huang (2019). Stop Hiding Behind Windshield: A Windshield Image Enhancer Based on a Two-way Generative Adversarial Network. Proceedings of the ACM Multimedia Asia. (MM Asia 2019)

EXPERIENCE

Research Assistant, Purdue University, *West Lafayette, IN*   *Sep 2024 - Present*
- Investigated the use of visual autoregressive generative models for classification, demonstrating that **VAR-based classifiers** offer inherent **explainability** and **robustness against catastrophic forgetting** in class-incremental learning.

Engineer, MediaTek Inc., *Hsinchu, Taiwan*   *Sep 2023 - Sep 2024*
- Led the team's first research project on **diffusion model quantization**, maintaining image generation quality under quantization to enable lightweight deployment on mobile devices; results accepted at **NeurIPS 2024**.

Research Assistant, NTU, *Taipei, Taiwan*   *Sep 2021 - July 2023*
- Studied **contribution evaluation** and **incentive mechanisms** for **federated learning**, published at **NeurIPS 2023**.

Co-founder, Stylins Ltd., *Taipei, Taiwan*   *Nov 2021 - Feb 2023*
- Led product development progress and built a high-resolution, real-time **virtual try-on** service with dynamic clothing size adjustment, enabling interactive user experiences; results recognized at **ICCV 2023**.

Intern, Synopsys Inc., *Hsinchu, Taiwan*   *July 2021 - Sep 2021*
- Built an automated system applying anomaly detection for **root cause analysis** in **IC design verification**.

Research Assistant, NYCU, *Hsinchu, Taiwan*   *March 2019 - July 2021*
- Researched **human pose estimation using WiFi signals**, published in **Pattern Recognition Letters 2023**.
- Proposed a novel unpaired training framework for **image enhancement**, published in **MMAsia 2019**.

PROFESSIONAL SERVICE

PC Member / Conference Reviewer
- Neural Information Processing Systems (NeurIPS) 2024, 2025
- International Conference on Learning Representations (ICLR) 2026
- IEEE International Conference on Big Data (BigData) 2025
Journal Reviewer
- Transactions on Machine Learning Research (TMLR) 2025

HONORS AND AWARDS

U-start Plan for Innovation and Entrepreneurship	*May 2022 - Oct 2022*
International IT Innovative Services Awards - Second Place Award	*Nov 2021*
Chunghwa Telecom Co. 5G Innovative Application Award - Honorable Mention	*Nov 2021*
ZHAN GUO CE National Innovation and Entrepreneurship Competition - First Place Award	*June 2021*
Epoch Foundation Young Entrepreneurs of the Future Plan - First Place Award	*July 2021*
Undergraduate research fellowship, Ministry of Science and Technology (MOST)	*July 2020 - Feb 2021*
The Yin-Zhi Tong Memorial Scholarship	*July 2020*

SKILLS

Programming Skills: C, C++, Python, Matlab, Javascript, Verilog, System Verilog, Hspice
Frameworks & Tools :   Pytorch, Keras, Tensorflow, Git, Docker
Language: TOEFL iBT 105