Po–Lin Chen

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Education

Carnegie Mellon University (CMU), School of Computer Science *Sept. 2025 - Dec. 2026* **(Expected)**
Master of Science in Computer Vision Pittsburgh, PA

National Taiwan University (NTU) *Sept. 2020 - Jan. 2025*
Bachelor of Science in Engineering (Specialization: Artificial Intelligence) Taipei, Taiwan

- GPA: 4.04/4.3, CS-Related: 4.22/4.3, Rank: 1/66
- Coursework: Deep Learning for Computer Vision, Digital Image Processing, Intro. to Artificial Intelligence, Web App Programming, Probability and Statistics, Data Structures and Algorithms, Computer Programming Language

Work Experience

Advantech *June 2024 - Aug. 2024*
Software Engineer Intern, Edge Vision AI Taipei, Taiwan

- Automated revenue loss prevention at self-checkout by integrating a multi-modal alarm system, combining vision-based anomaly detection with barcode signals and developing **10+** APIs for video streaming, testing, configuration, and control
- Enhanced stateful CNN computing efficiency on Intel CPU/iGPU platforms using Intel OpenVINO and NNCF in C++
- Reduced inference latency by **63%** and end-to-end processing time by **55%** (compared to TensorFlow-Lite benchmarks) through iterative performance modeling, profiling, and techniques including quantization and state buffer management
- Achieved **2%** false alarm rate while maintaining **99%** precision rate in detecting **4** targeted behavioral anomalies in retail

National Taiwan University *June 2022 - Present*
Research Assistant, Topic: An AIoT Framework for Vision-Based Livestock Monitoring Taipei, Taiwan

- Optimized MoViNet-Stream architectures for low-power inference on ARM-based Raspberry Pi by applying post-training quantization (PTQ) in TensorFlow, achieving up to **2.5x** throughput acceleration with only a minimal **1.3%** accuracy drop
- Developed a computation-efficient livestock monitoring system at the *NTU's Experimental Dairy Farm* by integrating edge AI computing, AWS cloud services, and a user-friendly dashboard to track **7** distinct behaviors for **20+** livestock individuals

Teaching Assistant, Courses in Computer Programming, DSA, and AI

- Instructed weekly C++ lab sessions on OOP fundamentals and practices for **50+** students in *Computer Programming Language*
- Built an online judging platform to automate Java code grading for **110+** students in *Practical Data Structures and Algorithms*
- Directed **60+** students in AI-focused projects (ImageBind, GPT, NeRF, FastSpeech) in *Introduction to Artificial Intelligence*

Projects

Text-to-Image Diffusion Models for Personalized Styles and Characters | VLMs, Diffusion Models *Sept. 2024 - Dec. 2024*

- Boosted style-conditioned diffusion efficiency by replacing LoRA methods with ControlNet and Image Prompt Adapter
- Proposed an attention alignment loss to mitigate attribute leakage among **2-3** adjacent or closely-related custom concepts
- Outperformed Custom Diffusion on CLIP-I/CLIP-T benchmarks in both style-conditioned and style-free T2I diffusion

Video-Based Approach for Animal Behavior Recognition and Analysis | PyTorch, ViT, LSTM *Jan. 2023 - Aug. 2024*

- Developed a video-based self-supervised learning framework using masked autoencoder for animal behavior recognition
- Improved accuracy by **3.7%** by rectifying long temporal sequences (1440 timestamps) with bidirectional LSTM and attention

Greenify: Your Recycle Mentor *(Google Hardware Product Sprint)* | TensorFlow, CNNs, Flask, React *July 2023 - Sept. 2023*

- Deployed an EfficientNet-based Flask backend on embedded hardware to automatically identify **10** common types of waste
- Boosted user engagement with **25+** AI-generated animations, **20+** immersive storylines, and an interactive touch interface
- Earned the one and only **2023 Product for Social Good** and **2023 Best Product of the Year** awards from Google Taiwan

Arui-II: An Intelligent Vision-Driven Field Robot | PyTorch, TensorRT, YOLO, Jetson, Arduino *Aug. 2021 - Oct. 2021*

- Optimized deep learning inference on NVIDIA Jetson TX2 with TensorRT to support low-latency robotic applications
- Developed a multi-modal robot navigation system that integrated perceptual inputs from **2** cameras with **4** ultrasonic sensors
- Implemented automated fruit harvesting by merging YOLO-based localization with closed-loop robotic gripper control

Skills

Languages: Python, C/C++, Java, C#, HTML, CSS, JavaScript, Shell Script, SQL
Deep Learning: PyTorch, TensorFlow, OpenCV, OpenVINO, CUDA, TensorRT, Nsight, Jetpack SDK
Other Frameworks & Tools: Flask, FastAPI, React, Vue, Node.js, jQuery, Qt, AWS, Git, Linux, Docker