

Po-Hao Huang

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EDUCATION

University of Illinois Urbana-Champaign

Master of Computer Science (MCS)

Champaign, IL

Aug 2024 – Dec 2025 (*Expected*)

National Taiwan University

Bachelor of Science in Computer Science and Information Engineering (CSIE)

Taipei, Taiwan

Sep 2017 – Jun 2021

- **Honors:** Dean's List Award - 1st semester of 2020-2021 at EECS CSIE
- **Last Two Year GPA:** 4.02 / 4.3

EXPERIENCE

Esri

Software Development Intern

Redlands, CA

May 2025 – Aug 2025

- **Responsibilities:** Accelerated the ArcGIS Python API with Rust and co-designed a new Rust core for geometry primitives for efficient vectorized operations
- Designed a unified, zero-copy geometry I/O architecture in Rust, achieving **10× faster** deserialization
- Performed Python profiling and visualization to identify bottlenecks
- Optimize import time by **66%** by restored lazy imports; vectorized geometry operations for **250× faster** large-DataFrame handling
- Refactored and unified implementations to fix conversions issues between different geometry formats
- **Relevant Skills:** Python, Rust, PyO3, REST API, Python profiling and visualization, Git

Quantrend Technology

Machine Learning Engineer (High Frequency Trading)

Taipei, Taiwan

Jun 2021 – Aug 2023

- Designed **over 30%** of the Machine Learning infrastructure in Rust and Python, from data preprocessing, model training to backtesting and validation
- Independently designed the company's proprietary Rust implementation of TensorFlow Models
- Developed **20%** of the features used in our online trading models
- Designed **over 70%** of the company's Machine Learning metrics
- **Relevant Skills:** Rust, Python, Git, OOP, Software Design Principles, Machine Learning, Linear Algebra, Stochastic Processes, Time Series Analysis, Quantitative Finance, High Frequency Trading

OmniEyes

Undergraduate Research Assistant

Taipei, Taiwan

Sep 2020 – Jun 2021

- Enhanced the accuracy of the computer vision-based mapping system by detecting and aligning new signboards using Metric Learning techniques
- Designed data augmentation mechanism to synthesize signboard images, improving model generalization
- Surveyed and experimented with Metric Learning techniques (Siamese, Triplet) for fine-tuning purposes
- **Relevant Skills:** Python, PyTorch, Machine Learning, Contrastive Learning, Object Detection

CancerFree Biotech

Software Engineering Intern

Taipei, Taiwan

Jul 2020 – Aug 2020

- Developed a modular Python pipeline for automated stained cell counting, eliminating manual processing of 100+ images per week and replacing commercial software with a customizable solution.
- Engineered an automated report generation pipeline integrating cell counting outputs, cutting report generation time from 2 hours to 1 minute per batch.
- **Relevant Skills:** Python, NumPy, Computer Vision, Image Processing, Automation

SKILLS

Languages: C/C++, CUDA(C++), Python, Java, Rust, HTML/CSS, JS, php, SQL

Software Design: Object-Oriented Programming (OOP), Design Pattern, Open-Closed Principle, Git, Docker, GCP, Databases(MySQL, MongoDB, Neo4j), Parallel Programming

DS/ML: PyTorch, TensorFlow, NumPy, Pandas, Matplotlib, seaborn, Machine Learning, Deep Learning, Computer Vision, Computer Graphics, Contrastive Learning, 3D Gaussian Splatting, Time Series Forecasting