

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 geometry I/O architecture with a zero-copy parsing/building framework in Rust; laid groundwork for bidirectional builders/readers
- 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
- Identified critical logic errors and duplicated, inconsistent geometry-conversion paths; refactored and unified implementations to ensure reliable conversions between different geometry formats
- **Relevant Skills:** Python, Rust, PyO3, Python profiling and visualization, Git

Quantrend Technology

Machine Learning Engineer

Taipei, Taiwan

Jun 2021 – Aug 2023

- Designed **over 30%** of the Machine Learning infrastructure in Rust and Python, including data preprocessing and model training
- Independently designed the company's proprietary Rust implementation of TensorFlow Models
- Developed **20%** of the features used in our models
- Designed **over 70%** of the company's Machine Learning metrics
- **Enhanced the online trading model's returns by 5%** by proposing a novel data sampling and labeling method, resulting in outputs more closely approximating real market performance
- **Relevant Skills:** Rust, Python, Git, OOP, Software Design Principles, Machine Learning, Linear Algebra, Stochastic Processes

OmniEyes

Undergraduate Research Assistant

Taipei, Taiwan

Sep 2020 – Jun 2021

- Collaborated with senior engineers to enhance their computer vision-based mapping system by detecting newly emerged signboards using Metric Learning techniques
- Surveyed and experimented with Metric Learning techniques (Siamese, Triplet) for fine-tuning purposes
- Designed a data augmentation mechanism to synthesize new signboards data and improve model scores
- **Relevant Skills:** Python, PyTorch, Machine Learning, Contrastive Learning, Object Detection

CancerFree Biotech

Intern

Taipei, Taiwan

Jul 2020 – Aug 2020

- Constructed a stained cell image recognition pipeline
- Developed a stained cell counting program using thresholding techniques to replace existing paid software
- Designed a report generation pipeline with Python adhering to the open-closed principle
- **Relevant Skills:** Python, NumPy, Computer Vision, Thresholding

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

Security: Reverse Engineering in Windows and Linux, overflow, stack pivoting, GOT hijack, ROP chain, use-after-free

DS/ML: PyTorch, TensorFlow, NumPy, Pandas, Matplotlib, seaborn