

# Po-Hao Huang

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## EDUCATION

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### 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

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### Esri

*Software Development Intern*

Redlands, CA

*May 2025 – Aug 2025*

- Designed a unified geometry I/O architecture with a zero-copy parsing/building framework in Rust; laid groundwork for bidirectional builders/readers
- Restored lazy imports to cut import time by **66%** and vectorized NaN checks 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
- Refactored a conflated global configuration into discrete, testable concerns, simplifying runtime selection and reducing side effects
- **Relevant Skills:** Python, Rust, PyO3, Python profiling, 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

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**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