Po-Hao Huang

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EDUCATION

University of Illinois Urbana-Champaign, Champaign, IL Aug 2024 – Dec 2025 (Expected)
Master of Computer Science (MCS)

National Taiwan University, Taipei, Taiwan Sep 2017 – Jun 2021
Bachelor of Science in Computer Science and Information Engineering (CSIE)

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

SKILLS

- **Programming:** C/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

WORK EXPERIENCE

Academia Sinica, Taipei, Taiwan (40hr/week) Apr 2024 – Jun 2024
Research Assistant – Initiated and conducted research on 3D Gaussian splatting for deepfake generation and detection

- Proposed a novel representation to effectively distinguish whether a set of images was generated using Gaussian splatting

Quantrend Technology, Taipei, Taiwan (40hr/week) Jun 2021 – Aug 2023
Machine Learning Engineer – Solving financial stochastic problem with machine learning and other statistical tools.

- **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
- Increased the R-squared score of certain features by **10x** by introducing a novel feature engineering method
- Designed **over 70%** of the company's Machine Learning metrics
- Developed **20%** of the features used in our models
- Independently designed the company's proprietary Rust implementation of TensorFlow Models
- Relevant Skills: Rust, Python, OOP, Machine Learning, Linear Algebra, Probability, Stochastic Processes

OmniEyes, Taipei, Taiwan (16hr/week) Sep 2020 – Jun 2021
Research Assistant – Under the guidance of Professor Shou-De Lin, collaborated with the startup OmniEyes 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, Taipei, Taiwan (40hr/week) Jul 2020 – Aug 2020
Intern – Constructed a stained cell image recognition pipeline

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

PROJECTS

MEowTRO - Subway System Simulation Game Apr 2020 – June 2021

- Led the design and development of the subway system, including station management, railway construction, and the shortest path algorithm.
- Utilized class diagrams for collaboration and practiced design patterns to ensure scalability and maintainability.
- Relevant Skills: Java, OOP, Design Patterns, Class Diagrams, Collaboration, Algorithm, UI/UX with JavaFX

Special Topics in Innovative Integration of Medicine and EECS Sep 2020 – Jan 2021

- Explore the use of computer vision and convolutional neural networks to identify the presence of periodontitis and atherosclerotic cardiovascular disease (ASCVD) in patients by analyzing panoramic radiographs
- **Publication**: Ma, K.S., Liou, Y.J., Huang, P.H., Lin, P.S., Chen, Y.W., Chang, R.F. (2021). "Identifying Medically-compromised Patients with Periodontitis-Associated Cardiovascular Diseases Using Convolutional Neural Network-facilitated Multilabel Classification of Panoramic Radiographs." Proceedings In International Conference on Applied Artificial Intelligence, pp. 1-4. doi: 10.1109/ICAPAI49758.2021.9462069