

TING-YANG KAO

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SKILLS

Programming: Python, C, C++, C# | **ML/DL:** PyTorch, Numpy, OpenCV, Scikit-learn, TensorRT | **Cloud:** AWS

Tools: Git, Docker, Spark, Linux | **Web/Databases:** HTML, CSS, JavaScript, Flask, Neo4j, SQLite, PostgreSQL, MongoDB

WORK EXPERIENCE

Perfect Corp. (PERF)

New Taipei City, Taiwan

YouCam Perfect & YouCam Makeup, Top 100 apps in Photo & Video

Machine Learning Engineer

Feb. 2023 - Jul. 2023

- **Researched** and implemented innovative solutions to improve the product based on **recent research**.
- Developed and deployed the latest product: an AI hairstyle changer with **Generative AI models using PyTorch** for the company's main app, which has **over 1 billion downloads**.
- **Designed data augmentation tricks and loss functions**, which significantly improved the visual results of the half-body image segmentation model on wild data.
- Designed the images and labels preprocessing pipeline using **OpenCV** to create a customized image segmentation dataset.

NeuinX Corp.

Hsinchu City, Taiwan

Machine Learning Engineer

Mar. 2022 - Jan. 2023

- Proposed the **first real-time Computer Vision-based fine-grained basketball shot analysis algorithm** with state-of-the-art performance for auto box scores in basketball games.
- **Accelerated model inference by 68%** by optimizing the model using **TensorRT's** model quantization capabilities.
- Developed a real-time data visualization interface for basketball shot analysis with **Python threading** and **Unity**.

National Tsing Hua University

Hsinchu City, Taiwan

Graduate Research Assistant - Observational Astronomy United Platform

Mar. 2021 - Feb. 2022

- Developed Back-End APIs with **Flask**; designed the schema of **Neo4j** database.

AU Optronics Corp.

Taoyuan City, Taiwan

Image Processing and Deep Learning Intern

Jul. 2021 - Sep. 2021

- Reduced the time of Defect Detection Analysis by **60%** by developing a **PyQt5 application** with **SQLite database**.
- Developed and designed a system pipeline integrated with **OpenCV** image processing and **Pytorch** deep learning models; achieved **over 90% accuracy** in Defect-Level Classification.

EDUCATION

Georgia Institute of Technology

Atlanta, GA

- M.S. in Computational Science and Engineering (College of Computing)

Aug. 2023 - Dec. 2024

National Tsing Hua University

Hsinchu City, Taiwan

- M.S. in Information Systems and Applications | GPA 4.04/4.3

Sep. 2020 - Dec. 2022

– Teaching Assistant: Intro. to Programming, Intro. to Computer Systems and Applications

National Cheng Kung University

Tainan City, Taiwan

- B.S. in Engineering Science | GPA 3.96/4.3 | Ranking: 6/56

Sep. 2016 - Jun. 2020

AWARDS

Honorable Mention Award in ACMMM 2022 Demo

Lisbon, Portugal

- Given to the best demos in the conference

Oct. 2022

Finalist & 1st Place in 18th AUO Internship Competition

Taoyuan City, Taiwan

- 1st place out of 54 interns

Aug. 2021

PUBLICATIONS

1. **TY Kao**, TY Pan, CN Chen, TH Tsai, HK Chu, MC Hu, "ScoreActuary: Hoop-Centric Trajectory-Aware Network for Fine-Grained Basketball Shot Analysis," *ACM Multimedia (MM)*, Oct. 2022