

# TING-YANG KAO

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## WORK EXPERIENCE

### Perfect Corp. (PERF)

Machine Learning Engineer

New Taipei City, Taiwan

*Feb. 2023 - Jul. 2023*

- **Researched** and implemented innovative solutions to improve the product based on **recent research**.
- Developed the latest product: AI hairstyle changer with **Generative AI models using Pytorch** for an app with **over 100 million 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.

Machine Learning Engineer

Hsinchu City, Taiwan

*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.
- Developed a real-time data visualization interface for basketball shot analysis with **Python threading and Unity**.

### National Tsing Hua University

Graduate Research Assistant - Observational Astronomy United Platform

Hsinchu City, Taiwan

*Mar. 2021 - Feb. 2022*

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

### AU Optronics Corp.

Image Processing and Deep Learning Intern

Taoyuan City, Taiwan

*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

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

Atlanta, GA

*Aug. 2023 - Present*

### National Tsing Hua University

- M.S. in Information Systems and Applications
  - Overall GPA: 4.04/4.3
  - Teaching Assistant: Intro. to Programming, Intro. to Computer Systems and Applications

Hsinchu City, Taiwan

*Sep. 2020 - Dec. 2022*

### National Cheng Kung University

- B.S. in Engineering Science
  - Overall GPA: 3.78/4.3, Major GPA: 3.96/4.3 | Ranking: 6/56

Tainan City, Taiwan

*Sep. 2016 - Jun. 2020*

## SKILLS

**Programming:** Python, C/C++/C# | **ML/DL:** Pytorch, Numpy, OpenCV, Scikit-learn | **Tools:** Git, Docker, Spark, Linux

**Cloud:** AWS | **Web/Databases:** HTML/CSS, Javascript, Flask, Neo4j, MySQL, SQLite, PostgreSQL MongoDB

## AWARDS

### Honorable Mention Award in ACMMM 2022 Demo

- Given to the best demos in the conference

Lisbon, Portugal

*Oct. 2022*

### Finalist & 1st Place in 18th AUO Internship Competition

- 1st place out of 54 interns

Taoyuan City, Taiwan

*Aug. 2021*

### 2nd Place in 2018 APAC-HPC-AI Competition

- 2nd place out of 17 teams

Singapore

*Aug. 2018*

## 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