Tsao Ching Kao

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EDUCATION

B.S. in Computer Science (GPA: 3.9)
National Cheng Kung University (NCKU)

M.S. in Computer Science
University of Wisconsin Madison

SKILLS

Python, Django, RESTful, MySQL, PostgreSQL, Docker, HTML, CSS, JavaScript, Linux, PHP, C, C++, Java, C#, FreeBSD, Machine Learning, Kmeans, Knn, Dbscan, and Decision Tree (link) , AI, Pandas, Numpy, Scikit-Learn (link), TensorFlow, Pytorch

PROFESSIONAL EXPERIENCE

Software Engineer Intern (C++, Python, JavaScript, Django, PostgreSQL, RESTful)
NCKU AI Center, Tainan, Taiwan   **January 2022 - July 2023**
• Developed an affordable and easily accessible service for smart homes.
• Employed an infrared sensor, ESP32-CAM, Django, PostgreSQL, and JavaScript to create a web-based system that detects unauthorized individuals during designated hours and sends notifications to users, serving 10+ members of a lab. (link)
• Designed RESTful API for retrieving JSON data from PostgreSQL database

Software Engineer Intern (PHP, JavaScript, phpMyAdmin)
AUO, Hsinchu, Taiwan   **July 2021 - August 2021**
• Developed an enhanced and intuitive method for data interaction.
• Devised a database utilizing phpMyAdmin and a web-based user interface built with PHP and JavaScript to store information on the causes of substandard products, enabling convenient Create, Read, Update, and Delete (CRUD) operations. This program helped 15 engineers upload and retrieve the needed data.
• Utilized Tableau to create an engaging and interactive dashboard, facilitating the extraction of meaningful insights from the stored data. The dashboard helped 3 managers find the classification of AUO's inferior products was incomplete.

Freelance (Python, Machine Learning, MySQL, Regular Expression)
Freelance, Remote   **January 2023 - April 2023**
• Successfully implemented multiple pieces of code related to data structure based on the client's specific needs.
• Developed custom Markov Model and Hash Table using Python to accurately identify speakers.
• Conducted web data crawling, implemented Regular Expression techniques to clean the data, and utilized the lxml library instead of BeautifulSoup package to extract targeted values, resulting in a 50 percent reduction in time spent.
• Increased the efficiency of MySQL commands used to retrieve data from an SQLite database by 30 percent, resulting in faster data extraction.
• Constructed a Decision Tree algorithm from scratch, incorporating Gini impurity as the basis for makingdecisions.

Software Engineer Intern (Python, Computer Vision)
Upbeat Technology, Tainan, Taiwan   **March 2022 - August 2022**
• Conducted research on incorporating hand gesture recognition into Upbeat's wearable devices.
• Built a real-time hand image detection model with 92% prediction accuracy on Raspberry Pi using TensorFlow Object Detection API to distinguish hand gestures for wearable devices. (link)
• Implemented CNN to build an image classification model with 97% prediction accuracy on NodeMCU using Keras to distinguish hand gestures for wearable devices. (link)