Wei-Chun Huang

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Education

University of Wisconsin-Madison — Sep 2020 ~ May 2024

B.S. in Computer Science and Data Science — **Cumulative GPA: 3.97 / 4.0**

Technical Skills

Website	https://whuang288alex.github.io/
Languages	Python, Java, C++, C, JavaScript, SQL, MATLAB, HTML, CSS
Technologies	Pytorch, React.js, React Native, Android Studio, Linux, GCP, AWS, SQLite3
Courses	Deep Learning, Computer Vision, Applied NLP, Algorithms (Honor), Database Systems, Operating Systems

Experience

Undergraduate Research Assistant — Jan 2023 ~ now

Advisor: Prof. Timothy Rogers

- Works on building and tuning robust **Vision Models** that learn semantic features from images using hybrid loss function.
- **Visualizes** the performance of different models with **WandB** to communicate findings with Psychology researchers.
- Built a pipeline that helps Psychology researchers interact with **Large Language Models** such as GPT and FLAN using Python API.
- Acquired **Prompt Engineering** skills while working on **NLP**-related cognitive science projects.

Undergraduate Research Assistant — Jan 2023 ~ now

Advisor: Prof. Yin Li

- Works on streamlining the **Video Feature Extraction** pipeline for **Temporal Action Localization** tasks.
- Built a repository that contains the code t extracts features from video datasets using mainstream models such as slowfast, i3d, c3d, CLIP, etc.
- Shortened the running time by **80%** through adjusting the code to work on large batch sizes and employing **Parallel/Throughput Computing.**

Electrical Engineering Intern — June 2022 ~ Sep 2022

Zebra Technologies Taiwan Co., Ltd.

- Developed the route planning feature for a navigating device using Dijkstra's algorithms.
- Implemented a **User Interface** for the device, which can be controlled by hand gestures after connecting to Arduino Boards
- Implemented a **Facial Lock** for the device and uses **Multithreading** to shorten the delay-time by **60%.**

Selected Projects

Real-Time Sign Language Translation System

- Developed this Computer Vision Application that recognizes ASL characters at **95%** accuracy.
- Implemented the model using **Pytorch** and built an interactive webpage that accomplishes **Live Translation** using **Open-CV** and mediapipe.

Ghost Touch Detector

- Developed this **Android App** that assists hardware engineers at testing the touch screens of the Zebra Touch Computer Series.
- Designed the ghost-touch-detecting feature and the path-replay feature to increase labor efficiency.
- Iteratively improved UI design and functionality to tailor to the needs of the engineering team

DevJobBoard

- Developed this **Cross-Platform** three-page mobile application with **React Native** and JSearch API.
- Created custom hooks to dynamically fetch developer job posts from platforms such as LinkedIn, Indeed, Glassdoor, etc.
- Implemented the Job searching and filtering feature to improve efficiency and user experience.

TravelCompanion

- Developed this web application with **React.js** and **Google Map API** that can search for hotels and restaurants.
- Integrated with the weather API to adjust recommendations based on current weather and time.

Mini-Rel

- Built a single user Database Management System with C++ from scratch that can execute multiple SQL queries.
- Includes 5 layers: UNIX file system layer, buffer manager layer, heap file layer, query processing layer, and the user interface.