Wei-Chun Huang (Alex 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

Webpage https://whuang288alex.github.io/
Languages **Python, Java**, **C++, C,** SQL, MATLAB, HTML, CSS, JavaScript
Technologies **Pytorch,** Scikit-learn, Android Studio, Linux, SQLite3, GDB
Courses **Deep Learning**, **Computer Vision**, Algorithms (Honor), Database Systems, Operating Systems, Probability theory in Machine Learning

Experience

Undergraduate Research Assistant (01/20/2023 ~ now)

Advisor: Prof. Yin Li

- Works on **streamlining the video feature extraction** process for action detection tasks. Built and maintained a repository that contains the code to extract features from video datasets using **vision models** such as slowfast, i3d, c3d, CLIP, etc.

Undergraduate Research Assistant (01/20/2023 ~ now)

Advisor: Prof. Timothy Rogers

- Works on building **robust vision models** that learns **semantic features** from images. Acquired **prompt engineering** skills while building a repository that helps Psychology researchers interact with **Large Language Models**.

Undergraduate Teaching Assistant (09/02/2022 ~05/13/2023)

Department of Computer Sciences

- Held more than 60 hours of office hour and assisted more than 100 students for CS540: intro to artificial intelligence**.** Taught concepts such as PCA, clustering, **Machine/Deep/Reinforcement Learning**, NLP, Game Theory, etc.
- Taught concepts such as SQL queries, B+ Tree, External Sort/Merge/Join, Query Optimization, and Transaction Management for CS564: Database Management Systems

Electrical Engineering Intern (06/27/2022 ~ 09/02/2022)

Zebra Technologies Taiwan Co., Ltd.

- Proposed the concept of a multi-function device. Built a model of the device with Nvidia Jetson Nano, which has an UI that can be navigated by hand gestures after connecting to Arduino board and stretch sensors. Implemented a facial lock with computer vision libraries and uses **multithreading** to improve performance.

Selected Projects

Real-Time Sign Language Translation System

- Developed a **computer vision application** that recognizes ASL characters at about **95% accuracy.** Implemented a modern multilayer **CNN** for image recognition using **Pytorch** framework, and built an **interactive webpage** that achieves live translation of sign language using **Open-CV** and **mediapipe**

Ghost Touch Detector APK

- **Proposed and developed** an APK that assists hardware engineers in testing the touch screens of the Zebra Touch Computer Series. Designed the ghost-touch-detecting feature to detect errors in the testing process and the path-replay feature to replay the testing process.

Minirel

- This is a group project in which we built a **working single-user DBMS** that can execute certain SQL queries. It includes 5 layers: the disk I/O layer (UNIX file system), buffer manager layer (using the clock algorithm), heap file layer, query processing layer, and the user interface.