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, GCP, AWS, SQLite3, GDB
Courses	**Deep Learning**, **Computer Vision**, Applied NLP, Algorithms (Honor), Database Systems, Operating Systems, Probability theory in Machine Learning

Experience

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

Advisor: Prof. Timothy Rogers

- Works on training and tuning **robust vision models** that learns semantic features from images using hybrid loss function.
- Acquired **prompt engineering** skills while building a pipeline that helps Psychology researchers interact with Large Language Models such as GPT and FLAN.

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

Advisor: Prof. Yin Li

- Works on streamlining the **video feature extraction** pipeline 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.
- Adjusted the code to work on large batch sizes and **employ parallel computing**.

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

Department of Computer Sciences

- Assisted **400 students** in more than **100 hours** of office hour for CS540: intro to AI and CS564: Database Management
- Lectured on Machine/Deep/Reinforcement Learning, B+ Tree, SQL queries, Query Optimization, Transaction Management

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

Zebra Technologies Taiwan Co., Ltd.

- Proposed the concept of a **multi-function device** and built a model of the device with Nvidia Jetson Nano.
- Implemented an UI with **Pygame** that can be navigated by hand gestures after connecting to **Arduino board**.
- 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 95% accuracy.
- Implemented the model using **Pytorch framework** and achieves live translation using **Open-CV** and mediapipe.

Minirel DBMS

- Built a single user **DBMS** that can execute multiple SQL queries with **C++**. The system includes 5 layers: the disk I/O layer (UNIX file system), buffer manager layer, heap file layer, query processing layer, and the user interface.

Ghost Touch Detector APK

- Developed an APK 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 improve labor efficiency.

Music Searcher

- **Co-lead** a team of 4 in developing an application that applies **hash-table** to optimize song searching.
- Implemented the front end with **JavaFX** and tested the program with **Junit5** Framework.