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 — Dean's List award: Fall 2020, Fall 2021, Spring 2022, Fall 2022

Technical Skills

Webpage	https://whuang288alex.github.io/
Languages	Python, Java, C++, SQL, MATLAB, HTML, CSS, JavaScript
Technologies	**Pytorch, Scikit-learn, Android Studio**, Arduino, Ubuntu, SQLite3, GDB, Junit 5
Courses	**Deep Learning**, **Computer Vision**, Matrix Methods in Machine Learning, Probability Theory in Machine Learning, **Algorithm (Honor), Database Systems, Operating Systems**

Experience

Undergraduate Researcher (01/20/2023 ~ 05/13/2023)

Advised by Professor Yin Li

- Will be working on directed studies regarding video feature extraction for computer vision tasks such as video understanding and action detection.

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

UW-Madison, 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.
- Assisted students with technical issues such as setting up Python and using Python libraries (Numpy, Scipy, Pytorch, etc.)

Undergraduate Research Assistant (09/02/2022 ~ 12/14/2022)

UW-Madison, Computational Materials Group

- Performed **Data cleaning, Feature engineering, and Model fitting** to predict properties of alloys based on features of elements using SciPy. Worked with multiple models including SVM, MLP, Random Forest, etc.

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
- Built an UI that can be navigated by hand gestures after connecting to Arduino board, gyro sensors, and stretch sensors
- Implemented a face recognition lock with computer vision libraries. Uses multithreading to shorten the delay time.

Selected Projects

Real-Time Sign Language Translation System

- Developed a **computer vision application** that recognize American Sign Language (ASL) characters at about **90% accuracy**
- Implemented a multilayer **Convolutional Neural Network** for image recognition and object detection using **Pytorch**
- Built an **interactive webpage** that achieves live translation of sign language using **Open-CV** and **mediapipe** libraries

Minirel Database Management Systems

- 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 (using the clock algorithm), heap file layer, query processing layer, and the user interface.

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
- Designed the path-replay feature to replay the testing process so that engineers don't have to be around physically while the robotic arms are operating, which **improves efficiency of labor**