Wei-Chun Huang

✉ whuang288@wisc.edu   ✆ +1 608-471-3887   ⌂ whuang288alex.github.io

Education

University of Wisconsin-Madison	Sep. 2020 - Dec. 2024
B.S. in Computer Science and Data Science	Cumulative GPA: 3.98 / 4.0

Skills

Languages	Python, Java, JavaScript, C++, C, SQL, MATLAB, HTML, CSS
Technologies	PyTorch, Linux, GCP, React Native, Android Studio, AWS, SQLite3, MongoDB, Express.js, React.js, Node.js
Courses	Deep Learning, Computer Vision, Big Data Systems, Operating Systems, Algorithms (Honors), Artificial Intelligence (TA), Database Systems (TA)

Experience

Computer Vision Developer

Niedenthal Emotions Lab   April 2023 - present

- Conducted a collaborative research project with social scientists to quantify the level of synchrony in marching band members and investigate the correlations between synchrony and social connections.
- Applied edge detection, instance segmentation, and corner detection to extract areas of interest from drone footage.
- Trained a **Faster-RCNN** model under **Detectron2** framework to get model-generated coordinates and map the coordinates to individuals.
- Built a customized COCO dataset from drone footage using **Labelbox** and optimized the annotation process with **model-assisted labeling.**

Undergraduate Research Assistant

Jan. 2023 - present Advisor: Prof. Yin Li

- Streamlined the **video feature extraction** pipeline for **temporal action localization** tasks. Built a repository that can be used to extract features from various video datasets with mainstream models such as i3d, slowfast, egovlp, CLIP etc.
- Optimized the code to employ **throughput computing** and work on larger batch sizes, resulting in an **80%** reduction in running time.
- Customized an iterable-style dataset to better distribute workload across subprocesses and enhance video decoding efficiency.

Undergraduate Research Assistant

Advisor: Prof. Timothy Rogers   Jan. 2023 - present

- Developed models that achieve **zero-shot learning** and increased robustness to **adversarial attacks** with semantic feature vectors.
- Conducted representation analysis to examine the individual differences in feature space between model layers.
- Built a Python pipeline that streamlined the interactions with **Large Language Models** for other psychology researchers.

Engineering Intern

Zebra Technologies   Jun. 2022 - Sep. 2022

- Developed an **Android application** that assists hardware engineers in testing the touch screens of the Zebra Touch Computer Series.
- Designed and implemented the ghost-touch-detecting feature and the path-replay feature, which help to increase labor efficiency.
- Worked collaboratively with the engineering team to iteratively improve the UI design and functionality of the application.

Projects

Dev Job Board

- Developed a **mobile application** that provides users with a convenient tool for job search with **React Native** and **J-Search API**.
- Created custom hooks to dynamically fetch updated developer job posts from various platforms such as LinkedIn, Indeed, Glassdoor, etc
- Implemented the job searching and filtering feature that allows users to easily search and refine job listings based on specific criteria.

AI Image Generator

- Developed a **MERN** Stack AI application that utilizes OpenAI's DALL-E API to create customized images based on user-provided text.
- Host the images on **Cloudinary** for efficient storage and deployed the application with **AWS**.

Real-Time Sign Language Translator

- Developed a computer vision Flask application that recognizes American Sign Language characters at 97% accuracy.
- Utilized **MediaPipe** API for hand landmark detection and ResNet18 for sign language classification.