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: 3.97 / 4.0

Skills

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

Experience

Python Developer

Niedenthal Emotions Lab — April 2023 - present

- Utilized drone footage to analyze the movement patterns of **268** individuals in a marching band in collaboration with social scientists.
- Created a customized COCO dataset from raw footage using Labelbox and optimized the annotation process with model-assisted labeling.
- Achieved outstanding results by fine-tuning the detectron2 model with our dataset, attaining **66 mAP** and high recall rate on the test set.
- Utilized the detection model-generated coordinates and **optical flow** techniques to assess the level of synchrony among social groups.

Research Assistant

Advisor: Prof. Timothy Rogers — Jan. 2023 - present

- Trained vision models that achieved **out-of-domain generalization** and increased robustness to **adversarial attacks** with semantic vectors.
- Utilized WandB to **visually communicate** hyper parameter searches and model performance with other researchers.
- Conducted **representation similarity analysis** to examine the individual differences between model layers and architectures.
- Built a Python pipeline that streamlined the interactions with **large language models** such as GPT and FLAN, resulting in increased productivity for psychologists.

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 extract features from various video datasets with mainstream models such as i3d, slowfast, egovlp, 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.

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, ensuring that it meets the specific needs and requirements of the team.

Projects

AI Image Generator

- Developed a **Full Stack AI application** that can generate customized images based on user-provided text inputs.
- Utilized **React.js**, **Node.js,** and **Tailwind** frameworks to build applications efficiently, and **MongoDB** to facilitate data management.
- Deployed the application on an **AWS** server, ensuring scalability and accessibility for users.
- Acquired experience working with OpenAI's **DALL-E** model.

Dev Job Board

- Developed a **cross-platform mobile application** with **React Native** and **J-Search API**, providing users with a convenient tool for job-search.
- 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, enhancing the overall user experience.