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, Big Data Systems, Operating Systems, Algorithms (Honors), Artificial Intelligence (TA), Database Systems (TA)

Experience

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 similarity analysis** to examine the individual differences in feature space between model layers.
- Utilized wandB to visually communicate hyper parameter searches and model performance analysis with other researchers.
- Built a Python pipeline that streamlined the interactions with **large language models**, resulting in increased productivity for psychologists.

Research Assistant

Advisor: Prof. Yin Li   Jan. 2023 - present
- Streamlined the **video feature extraction** pipeline for **temporal action localization** tasks.
- Built a repository that extracts 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.

Python Developer

Niedenthal Emotions Lab   April 2023 - present
- Measured the level of synchrony within a social group by analyzing the movement patterns of **268 individuals** in a marching band.
- Built a customized COCO dataset from drone footage using **Labelbox** and optimized the annotation process with **model-assisted labeling**.
- Trained object detection models with the custom dataset to get model-generated coordinate and map the coordinates to individuals.

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 create customized images based on user-provided text inputs.
- Utilized OpenAI's DALL-E API for image generation and implemented the backend with **Node.js.**
- Built the frontend of the application with **React.js** and utilized the **Tailwind** framework to build applications efficiently.
- Utilized **MongoDB** to facilitate **CRUD** operations and host the images on **Cloudinary** for efficient storage.
- Deployed the server side of the application on **Render** and the client side on an **AWS** server.

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.