

Yunquan Zhang

✉: yz2793@cornell.edu; ☎: (510)703-7879; San Leandro, CA

EDUCATION

Cornell University

Aug. 2022 – Dec. 2023

- Master of Engineering, Electrical and Computer Engineering (GPA: 3.67/4.0)
- Coursework: Algorithm Analysis, Data Structures, Operating Systems, Computer Vision, Machine Learning

South China University of Technology

Sep. 2017 – Jun. 2022

- Bachelor of Engineering in Information Engineering (GPA: 3.70/4.0)

WORK EXPERIENCE

Guangzhou Techphant Technology Co., Ltd.

Mar. 2022 – Jun. 2022

DevOps Engineer Intern

Guangzhou, China

- Developed an Android app using Java to test hardware product functions for an IoT group. The app included exporting product data for follow-up analysis and was used by five hardware testing teams.
- Deployed Techphant IT operation web system and maintenance software on the company's Linux cloud server.
- Implemented a Docker-based CI/CD pipeline with Jenkins and Gitlab to automate software build and deployment, reducing the build and deployment time from one hour to three minutes.

PROJECTS

Campus Events Web Platform

Jul. 2022 – May. 2023

Course Project

- Developed a campus events web platform based on Spring Boot framework and SSM principle for students to share events.
- Implemented functions such as registering, logging, posting events, searching for events, sensitive word filtering, commenting, likes and following, notification and hot events ranking.
- Utilized Prefix Tree algorithm for improved filtering of harmful events; used CDN and Nginx to manage resource files, achieving load balancing and reverse proxy and implemented Redis and Caffeine to improve overall performance.
- Integrated Kafka to build asynchronous system notifications in notification module of the platform.

Deep Learning based Image Analysis Web Application

Aug. 2022 – May. 2022

M.Eng. Project

- Developed a web system utilizing Spring Boot frameworks and React JS, achieving 95.79% accuracy in image classification.
- Implemented Grad-CAM and Grad-CAM++ algorithm in PyTorch to deliver richer feature importance analysis.
- Developed a built-in AI assistant chatbot by integrating OpenAI GPT-4 API into current website to answer users' questions.

Application of Deep Learning Method in Oriented Water Meter Reading Recognition

Mar. 2022 – Jun. 2022

Final Design Project

- Redesigned YOLOv5 for oriented object detection by improving model structure and adding rotation loss in loss function.
- Created a custom Water Meter Reading Recognition dataset by collecting and labeling water meter pictures from real scenes.
- Trained and tested the redesigned YOLOv5 model on the custom dataset, resulting in a high detection accuracy of 98.7%.
- Developed water meter reading recognition function and increased recognition accuracy from 56% to 82% through implementation of OpenCV for image preprocessing.
- Built a web application using Flask to demonstrate detection and recognition results and deployed it to an Amazon EC2 server.

Autonomous Driving Intelligent Truck

Mar. 2021 – Jun. 2021

Team Leader

- Created an autonomous driving truck that can track a person's movement and navigate with obstacle avoidance while following the target to the destination or be controlled remotely through a web page.
- Built a Python Web Server on Raspberry Pi and developed a front-end with HTML/ CSS to control truck's speed and steering.
- Collected images using camera on the truck and built a self-driving dataset to train a deep learning model using TensorFlow.
- Utilized OpenCV and the trained deep learning model to achieve self-driving, target following, and object detection.

SKILLS

Java, C, C++, Python, HTML/CSS, JavaScript, SQL, Git, Docker, Spring Boot, Kafka, Nginx, Redis, Tomcat, Stata, MATLAB