Yunquan Zhang

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EDUCATION

Cornell University *Aug. 2022 – Dec.2023*

- Master of Engineering, Electrical and Computer Engineering (GPA: 3.73/4.0)
- 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

Roamer AI *Jun.2023 –Aug. 2023*

Software Developer Intern *New York*

- Successfully scraped, cleaned, and analyzed residential property data sets from a variety of sources with Python adhering to all legal and ethical considerations. Managed data using AWS S3 for storage.
- Assisted in the development of an AI-driven residential property search platform and optimized search algorithm.
- Contributed to the creation of a broker assistant tool that generates instant listing descriptions, comparable reports, and pricing studies, enhancing the efficiency of real estate professionals by 30%.

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 – Feb. 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 – Dec. 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 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.

SKILLS

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