Zifan He

Email: zifanhe1202@g.ucla.edu | Linkedin: https://www.linkedin.com/in/zifan-he-2a9653165/

Phone: +1 3108690692 | Github: https://github.com/OswaldHe

Summary

Concentrated on web and mobile app development. Strong skills in both front end UI design, backend API endpoints design, and database schema design.

Language: Java, C++, C, Python, Shell, OCaml

Front End: HTML/CSS, JavaScript, React, PWA

Back End: NodeJS Express, Java Servlet, Loopback

Database: MySQL, MongoDB, DynamoDB, Sqlite

Mobile: React Native, Android, Flutter

Deployment: AWS, GCE, Docker

Education

University of California, Los Angeles (UCLA) **Sept. 2019 – Present**

BS in Computer Science major (GPA: 4.00/4.00) Expected Graduation Year: 2022

Courses Included: Operating System Principle, Algorithm, Object-oriented programming, Software Constructions, Programming Language, Database System, Software Engineering, Linear Algebra, Real Analysis

Work Experience

UCLA Micro-Nano Manufacturing Lab **Oct.2020 – Present**

Build GUI for Electrowetting chip controller and elaborate Edrop website for chip manufacturing.

Student Researcher

The EWOD GUI is a PWA built on top of a normal React Web App. The Edrop website uses React+JQuery as frontend tech stack and Loopback as backend framework.

- Improve Edrop Website frontend and **MySQL** database design.
- Utilize service worker with **React** to build PWA for GUI, with **IndexDB** for file saving.
- Use **WebHID** api to access the EWOD controller HID and perform read-write operations.
- Create user interface for drawing electrodes with **Material UI** and test with **Jest + Testing-library**.

Academic Project

WeBuy **March.2020 – June.2020**

A software constructed for people to search for nearest supermarkets that has inventory of groceries they want.

Full-Stack Engineer

Use **React Native** as the Framework to build mobile app UI and **NodeJS Express** as backend framework.

- Implement content-based recommendation algorithm on supermarkets that fit users' preference
- Provide optimum solution for user to buy a list of groceries using **Simulated Annealing** algorithm
- Implement a shopping list management system for users' convenience while buying.
- Use **Google Map API** to generate a list of supermarkets near users
- Use **Redux** to control the states between different UI components

KitchenMate **Dec.2019 – May.2020**

A software that helps people organizing their daily meal plan, monitoring inventory of ingredients they have in their home, and generating shopping list for them to buy in groceries stores.

Front-end Designer

Use **React Native** as the framework to build a mobile app mainly on iOS platform.

- Completed fully functioning UI for beta test on Apple Store.
- Completed data collection and connections with backend APIs.
- Will add more features in Phase II development, such as recipe sharing and Google account login.

Club Activities

DevX: Pulp **Jan. 2020 – May. 2020**

This project builds an iOS app for friends to share great place to go nearby

Back-end Engineer

Use **NodeJS Express** as the backend framework

- Migrated database from **MongoDB** to **DynamoDB** for convenience of deployment on **AWS EC2**
- Deleted some redundant features and add Facebook login.
- Attempted to use Facebook feed to get part of user data and elaborate on recommendation algorithm

SARU: Innovative Recycling System **July.2020 - Present**

This project builds a mobile app to encourage users to correctly recycle trash and monitored for recycling firms.

Full-Stack Engineer

- Use **React Native** as frontend framework and **NodeJS Express** as backend framework
- Use **Twilio SMS** sender API and **SMTP server** to send validation code to users as an option for login.
- Realize photo uploader and store them in **Google Storage** service
- Communicate with embedded device on recycling bin using QR code scanning.