Mark Liu

951-496-7349 · chl097c@gmail.com · https://github.com/Chiafl · https://chiafl.github.io/

EDUCATION

University of California, San Diego ***09/2015 – 06/2019***

- Mathematics - Computer Science, B.S.
- Management Science, B.S.

SKILLS

Languages: Java, Python, C++, C, Javascript, HTML, CSS, SQL, jQuery
Technologies: Visual Studio, Android Studio, R, Git, JIRA, Bitbucket, MATLAB, Octave, PostgreSQL
Frameworks: AngularJS, Bootstrap, Flask, React.js
Misc: Agile, Object Oriented Design, OpenGL, Haskell, ARM, Linux Command Line, Vim

WORK EXPERIENCE

Tzu Chi USA – Web Development Intern *(San Dimas, CA)* ***06/2017 – 09/2017***

- Worked on duties mainly on the front-end UI using AngularJS, Angular Material, and REST API. Responsible to creating the interface used to submit income entries. Implemented word validations through AngularJS's directives. Implemented file upload and download by parsing raw data from the server into a displayable image file or downloadable link.
- Followed Agile software development approach. Attended meetings every day to update current status. Executed and delivered tasks assigned on JIRA.

LEADERSHIP & SERVICE

UCSD Tzu Ching – Volunteer, Historian, Vice President ***03/2017 – Present***

- Assist students K-12 from low income family by offering tutoring services. Visit the senior center monthly and provide company to the elderly through entertaining activities such as charades, singing, and exercise stretch.
- As a club officer, help lead volunteering events and instruct new members. Responsible for photos at events, editing via Adobe Lightroom, and maintaining photo albums on social media. Lead and prepare general body meetings. In charge of administrative tasks such as room reservation and budget preparation. Completed over 160 hours of volunteering.

PROJECTS

CSE 145 Project: Canopy Height Measurement

- Worked on UCSD Engineers for Exploration's mangrove project in a group
- Soldered pin headers onto Raspberry Pi Zero W, sensors, regulator, and switches. Tested the devices by integrating the components with jumper cables (F-M, F-F) and a breadboard. Set up I2C connection for the Pi and altimeter.
- Set up the website using Bootstrap 4.3.1 for the front-end and Flask 1.0.2 for the back-end. Used Javascript, specifically AJAX jQuery to retrieve data from the sensor (through Python) and display real time sensor data without reloading. Also used AJAX to upload data and save the data in JSON parse-able format.
- Used SQLAlchemy to set up a simple SQLite database to store uploaded data and to query existing data

CSE 167 Project: Computer Graphics

- Implemented basic OpenGL methods (scale, rotate, lookAt, etc.) using homogeneous coordinates
- Implemented vertex and fragment shading (rasterization), raytracing, and acceleration structures (grid & bounded box)

CSE 120 Project: Nachos (Operating System)

- Implemented thread join, conditional variables, system calls, multiprogramming, and memory management (demand paging, lazy loading, page pinning)

CSE 110 Project: Mobile Map-based Photo Application Project

- Working in a 6-man group. Created using Android API, Firebase, and Android Studio. Worked mainly on the algorithm aspect. Used Google Maps API to calculate the location of photo taken to compare with current location. Created custom accounts for users by using firebase to upload and retrieve data.
- Followed Agile development cycle. Arranged weekly stand up meetings and shipped prototypes for each iteration

INTERESTS

- tennis, piano, logic puzzles, chess, trending technologies, machine learning, security, embedded system