Zhenghao (Lucas) Dai

213-222-7189 | zhenghad@usc.edu
https://zhenghao-dai.github.io | https://github.com/Zhenghao-Dai
https://www.linkedin.com/in/zhenghao-dai

SKILLS

C++ • Python • Java • HTML/CSS • Javascript(jquery) • SQL • Git • Unit test • Linux • IOS App development
Raspberry Pi • Arduino • RIOT • ROS
Mandarin & English

EDUCATION

University of Southern California *Sep 2018 - May 2022*
B.S. Computer Engineering & Computer Science (CECS) *GPA: 3.4*

- Member of Chinese Students and Scholars Association (CSSA), Department of External Affairs. A specialist in the school's Department of Public Safety. Weekly communicate with DPS. Pass the voice of Chinese students to DPS
- Member of Habitat for Humanity, USC Chapter
- Member of USC Association for Computing Machinery, attend monthly workshops
- Member of USC IEEE

WORK EXPERIENCE

USC Viterbi School of Engineering *Jan 2020 - Present*
Teaching Assistant *Los Angeles, CA*

- Undergraduate TA for information technology program course - Web Publishing
- Hold office hours to answer students' questions about course materials, including laboratory assignments and tests
- Review course materials, grade homework and midterm exams, and hold review sessions

USC Robotic Embedded Systems Laboratory *Oct 2019 - Present*
Student Worker (Research Assistant) , Advised by Prof.Gaurav S. Sukhatme *Los Angeles, CA*

- Help with the development of the Crazyswarm platform for multi-quadrotor robotics research
- Design and establish new velocity control mode
- Onboard control software (32-bit microcontroller, **embedded C**) and base station coordination/scripting software (PC, **C++** and **Python**)

Zhejiang Guozi Robot Technology Co., Ltd. *Jun 2019 - Aug 2019*
Software Development Engineer Intern *Hangzhou,China*

- Developed a Pick-to-light (PTL) control software and GUI with **Python** and **PostgreSQL** for Staples' warehouse
- Encapsulated **Java** Archive for LED controlling with **Python**
- Improved lighting algorithm efficiency from 300 pieces per hour to over 600 pieces per hour

Project

Schedule Helper(Python)

- An application that will notify you when a class you want has an available seat as well as help you plan your schedule.
- Built high efficient **multi-threaded** Web crawler APIs with **Python**
- Developed **web server** with **Flask** and exchanged data with **HTTP** POST and GET
- Used and developed **RESTful** API to build a Wechat messenger bot that allows users to submit the request and check the availability.
- Sent email and SMS notification with **SMTP** and **message gateway** to users
- Stored data with **MySQL** and ensued multi-threaded SQL executes with **lock**

Raspberry Pi Light Sensor IoT System (C&Python)
https://github.com/Zhenghao-Dai/RPI-Light-Sensor-IoT-System

- A home IoT system with easily deployable, battery-powered sensor nodes that will detect the intensity of light in each room of the house in order to determine when the lights have been turned on and off throughout the day.
- Used Raspberry Pi and openmote-cc2538 which programmed with **C** to collect lighting data in **multi-threads** and broadcasted data to the receiver node by using **UDP**
- Developed a web server that allows users to check light events with **Python** and **Flask**

BASIC Interpreter (C++)

- A **C++** interpreter program for the language BASIC with class inheritance hierarchy and parse tree
- Execute "PRINT" "LET" "GOTO" "IF" "GOSUB" "RETURN" ..etc BASIC commands with correct output