OLIVIA LOH

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EDUCATION

University of California, Los Angeles (UCLA)   Expected Graduation: 06/2022
B.S. Computer Engineering, Minor in Film, Television, and Digital Media (FTVDM)   GPA: 3.55
- Academic Achievements: IEEE-HKN Honor Society, UPE: Honor Society for the Computing Disciplines
- Coursework:

Systems and Signals	Digital Electronic Circuits/IC	Computer Organization
Logic Design of Digital Systems	Data Structures/OOP/Algorithms	Operating Systems

TECHNICAL SKILLS

Programming Languages: C/C++, Java, Python,   **Microcontrollers:** Arduino, Beaglebone, STM32
Tools: Git, Eagle (EDA), Cadence Virtuoso (EDA), Matlab   **Lab:** Oscilloscope, Spectrum Analyzer, DMM, Soldering
Specialties: Robotics, Controls, and Sensors | Embedded Systems | Internet of Things | Software Programming

WORK EXPERIENCE

Outcome Driven Innovation (ODI), *Student Intern*   8/2020-10/2020
- Improve the performance of the existing thermal imaging (C/C++ & Python) software
- Implement bad pixels computational algorithms to improve video quality
- Program auto-data collection functionality on QT desktop app for research and analysis purpose

6/2017-5/2018
- Utilized Linux commands to flash firmware image into enterprise water leak detection IoT router and test internet communication through ethernet, cell-modem, public switched telephone network modem
- Soldered electronics components on printed circuit board (PCB), and assembled electronics product

Transfer Bridge to UCLA Samueli Engineering, *Undergraduate Mentor*   6/2020-9/2020, 8/2019-9/2019
- Mentored incoming CS/EE transfer students in rigorous engineering bootcamp and 3-day hackathon
- Prepared curriculum for and taught data structures and object-oriented programming in C++
- Led Python workshop introducing students to tkinter library and on building a Desktop GUI in tkinter
- Led Arduino workshop on hardware-setup and programming for Bluetooth communication
- Designed 2-D mapping algorithm for 2020 hack prototype, autonomous object-detection/mapping car
- Established Bluetooth communication between mapping car and laptop for real-time mapping

ECE 3 (Intro to Electrical Engineering Course), *Mentor*   03/2020-present, 09/2019-12/2019
- Guide 20+ students though weekly labs and operating oscilloscopes, multimeters, and electrical lab equipment
- Pioneer lab experiments, curriculum changes to ECE 3 Lab Manual with professor and other mentors

ACTIVITIES

UCLA IEEE (Institute of Electrical and Electronics Engineers) Chapter, *Member*   9/2019-3/2020
- Designed PCB layout in Eagle for a Micromouse, an autonomous 16x16 maze solver car
- Implemented PID control algorithm for encoders on Micromouse car on STM32 Cube platform

9/2018-6/2019
- Solved electrical engineering design challenges with Arduino microcontroller, hardware components (555 timer, H-bridge, radio, and IMU) and circuit theory knowledge
- Developed control loop in Arduino using IMU gyroscope sensor inputs to tilt-control a car for capstone project

ASME X1 Robotics, Electrical/Controls System Member   9/2019-3/2020
- Designed control loop of payload delivery subsystem of Bruinbot, a human-interaction robot

9/2018-6/2019
- Worked on coordinate scaling, adding, and transformation functions in Python for hexapod gait algorithm

ENGINEERING PROJECTS

Real-Time Running Speed Calculator   5/2019-6/2019
- Calculated real-time velocity and displacement of runners by simulating running strides using repeated simplified square-shaped gestures on the STM32 System Workbench (Eclipse IDE) in C
- Developed a state machine that changes state according to changes in displacement collected from STM SensorTile's 3D accelerometer data.

Line Follower Car   5/2019-6/2019
- Programmed PID control algorithms in Energia (C-based), utilizing IR sensor fusion and IR sensor feedback for a TI-RSLK car to follow a black line, while controlling car speed based on encoder feedback values