# OLIVIA LOH

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## EDUCATION

**University of California, Los Angeles (UCLA)** Expected 06/2022
*B.S. Computer Engineering*

- GPA: 3.55
- Honors: UPE (International Honor Society for the Computing and Information Disciplines) Member

## TECHNICAL SKILLS

**Programming Languages:** Java, C++, Python, x86-64 Assembly Language
**Software and Dev Tools:** Arduino, Eagle (PCB Design), Cadence Virtuoso (EDA), SolidWorks (CAD), Microsoft Office
**Lab:** Digital Oscilloscope, Digital Multimeter, Soldering Iron
**Certifications:** Certified SOLIDWORKS Associate (CSWA) - March 2018

## WORK EXPERIENCE

**Transfer Bridge to UCLA Samueli Engineering,** *Undergraduate Mentor* 08/2019-09/2019, 06/2020-09/2020

- Mentor 45 incoming transfer students in rigorous engineering bootcamp and 3-day hackathon, designed to help them adjust to academics and life as UCLA engineering students
- Prepare curriculum for and teach data structures and object-oriented programming in C++
- Lead Arduino workshops in basic projects involving LEDs, servos, stepper motors, and serial communication
- Design hackathon project, Bluetooth-controlled robotic arm (2019) & Mapping robot (2020), w/ other mentors
- Oversaw hackathon and supervised students using power tools, machines, laser cutters, and 3-D printers

**ECE 3 (Intro to Electrical Engineering Course),** *Mentor* 09/2019-12/2019, 03/2020-06/2020

- Guided 20+ students though weekly labs and operating oscilloscopes, multimeters, and lab equipment
- Pioneered new lab experiments, curriculum changes to ECE 3 Lab Manual with professor and other mentors

**Outcome Driven Innovation (ODI),** *High School Student Intern* 06/2016-07/2016, 06/2017-05/2018

- Compiled mechanical Bill of Materials (BOM) using SolidWorks and conducted SolidWorks training
- Utilized Linux commands to flash firmware image into enterprise water leak detection IoT router and test the internet communication through ethernet, cell-modem, public switched telephone network modem
- Reworked on printed circuit board (PCB) by removing and soldering electronics components, and assembled the enterprise IoT products includes sensors, hubs and routers.

## ACTIVITIES

**UCLA IEEE (Institute of Electrical and Electronics Engineers) Chapter**, *Member* 09/2018-present

- Develop automated car with 2 students that solves a 16X16 maze for Micromouse competition
  - Designed Micromouse PCB in Eagle and coded PID control algorithm for IR sensors in STM32 Cube
- Developed control loop in Arduino using IMU gyroscope sensor inputs to tilt-control a car
- Solved electrical engineering design challenges with Arduino microcontroller, and hardware components (555 timer, H-bridge, radio, and IMU) and circuit theory knowledge

**ASME X1 Robotics,** *Electrical/Controls Team Member* 09/2018-present

- Research and compile electrical BOM (sensors, microcontrollers, etc.) for hexapod and human-interaction-bot
- Design an embedded system, considering microcontroller hardware limitations and communication protocols

**Prospect Robotics Team,** *High School Club President* 08/2014-06/2017

- Managed team and communicated with over 20 members via emails and Slack
- Applied for and received first ever NASA and Nvidia grants, as well as BAE Systems grant and managed fundraising efforts
- Conducted Java (WPILib) and Solidworks workshops for new robotics members
- Brainstormed, prototyped, and test for final mechanical robot design and CAD model
- Deployed, tested, and debugged autonomous code (Java) for competition robot

## ENGINEERING PROJECTS

**Square Motion Detection (E96C Intro to Engineering Design: Internet of Things Group Project)** 05/2019-06/2019

- Calculated velocity and distance of square-shaped motion with STM SensorTile's 3D accelerometer data

**Line Following Car (ECE 3 Intro to Electrical Engineering Group Project)** 05/2019-06/2019

- Programmed PID control algorithms in Energia (C++ based), utilizing IR sensor fusion and IR sensor feedback for a car to follow a black line, while controlling car speed based on encoder feedback values