

# Justin Le

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## RESEARCH

### CALIFORNIA PLUG LOAD RESEARCH CENTER

#### UNDERGRADUATE RESEARCHER

Jan 2018 – Present | Irvine, CA

- Test, demonstrate and develop wired and wireless control systems for managing energy consumption of plug load devices in residential and commercial settings.
- Working on implementation of an ESP-WROOM 32 embedded system that uses RTOS, I2C and SPI protocols.
- Using/learning Visio and EAGLE to create circuit schematics for appointed projects.
- Researching MQTT IOT protocols to implement publish/subscribe client interfaces using Python/Eclipse Paho.

## PROJECTS

### THALES PROJECT ARDUINO - SCOUT CAR

Oct 2017 – Present | Irvine, CA

- Worked on a team of 4 to create a scout car that uses an Arduino Uno/ATMega328p, distance sensor, Bluetooth module, L298n motor driver, pan-tilt servos, and eye-tracking software.
- Specifically created and designed circuit schematics to support multiple modules.
- Helped create a Python script to convert and send Tobi EyeX gaze data to the Scout Car via the HC-05 Bluetooth module.

### MICROMOUSE

Jan 2018 – Present | Irvine, CA

- Currently in the process of solo designing/building a small robotic mouse that autonomously solves a 16'x16' maze.
- Key features include a Teensy32, a full bridge motor driver and 4 IR emitters and receivers pairs.
- Embedded software design in progress to use a flood fill algorithm and stack data structure.

## ADDITIONAL EXPERIENCE

### UCI SCHOOL OF ENGINEERING - DEAN'S OFFICE

#### LEAD STUDENT ASSISTANT

July 2017 – Present | Irvine, CA

- Work on data heavy projects using Microsoft Excel/VBA that require a meticulous attention to detail.
- Worked closely with executive members of the University of California, Irvine.
- Required to manage and train new student assistants.

### UCI GUESTS AND EVENT SERVICES

#### PARKING ATTENDANT

Jan 2016 – May 2017 | Irvine, CA

- Provided daily customer service to 50+ UCI visitors in a fast pace environment.

### ENGINEERING STUDENT COUNCIL - EMF

#### STUDENT MENTOR

September 2017 – Present | Irvine, CA

- Part of a mentoring program, "Engineers Mentoring the Future", that pairs mentors with first/second year engineering students in order to help them both in academics and community involvement.

## EDUCATION

### UNIVERSITY OF CALIFORNIA, IRVINE

#### BS IN COMPUTER ENGINEERING

Expected June 2019 | Irvine, CA

## COURSEWORK

Programming in C  
Object-Oriented Programming  
Data Structures and Algorithms  
Introduction to Data Management  
Discrete-Time Signals and Systems  
Organization of Digital Computers  
Electronics I/II  
Electronics and Network Analysis

## SKILLS

### PROGRAMMING

- Java • C • Python • SystemVerilog
- Mathematica • SQL

### SOFTWARE/PLATFORMS

- Eclipse • OrCAD Capture • Git
- EAGLE • PSpice

### HARDWARE

- Arduino/ATMega328p • Teensy32
- ESP-WROOM 32

### FAMILIAR

- $\LaTeX$  • Linux • HTML/CSS
- Javascript • MQTT • Assembly

## AFFILIATIONS

- Alpha Phi Omega - (National Service Fraternity)
- ACM@UCI - Association for Computing Machinery
- IEEE/Micromouse