Jonathan Low

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EDUCATION

University of California, Irvine | Bachelor of Science in Computer Science and Engineering — Expected June 2022

- Cumulative GPA: **3.47**
- Courses: Unix, Data Structures, Algorithms, Circuits, Embedded Software, C++, Python, CPU Architecture, Data Bases

EXPERIENCE

Amazon, Seattle, WA — Jun. 2021
Incoming Embedded Software Engineering Intern

Northrop Grumman, Manhattan Beach, CA — Jun. 2020 - Dec. 2020
Electrical Engineering Intern

- Worked on top level FPGA designs and created constrains based on a schematic.
- Refactored designs in **VHDL** and implemented new logic modules for newly developed boards
- Successfully tested 5 boards and made improvements to streamline/automate the testing procedure.
- Used multimeters, DMM, power supply, oscilloscope, and Python to run tests on boards.

UCI CanSat, Irvine, CA — Aug. 2019 - Jun. 2020
Embedded Software Team

- Created the **task scheduler** in C++ to handle data logging, radio transmissions, and controls
- Wrote **drivers** for an STM32 microcontroller, to interface with the sensors on the satellite (**I2C, UART**)
- Collaborating on a overall team of 10 members and a software/electrical sub-team of 3 members

PROJECTS

Micromouse (https://github.com/lowJ/fish-mouse) — May. 2020 - Present

- Created an autonomous maze solving robot that uses IR distance sensors, motors with encoders, and a Microcontroller
- Wrote the abstraction layer to interface with the hardware and ran stress tests on the robot
- Designed the schematic and **PCB** in KiCAD, and soldered components on the board.

Macropad — May. 2020 - Aug. 2020

- Created the **PCB** and schematic for a 12 key keypad that is controlled by a microcontroller.
- Implemented an RGB OLED (SPI) and addressable RGB per key lighting.
- Soldered components on board together and designed case in Solidworks.

Covid Alerts — May. 2020 - Aug. 2020

- An **Python** app that lets users sign up for daily Covid-19 updates in their area.
- Developed backend that handled adding users to a **SQL** database and sending scheduled texts with the **Twilio API**
- Created the signup page with **Django** and deployed it on Heroku

Pirate Rover — Jan. 2020

- Created **Raspberry Pi** based vehicle that autonomously navigated to a nearby radio beacon
- Won **3rd** place for Northrop Grumman's prize at UCSD's hardware hackathon

ACTIVITIES

UCI Micromouse Club — Dec. 2019 - Present
Co-Director

- Developed an Micromouse PCB kit, along with documentation, to help members build their own Micromouse robots
- Facilitated weekly workshops on microcontroller programming, circuit design, power systems, and motor drivers
- Manage a club with over 30 members

IEEE UCI Board Member — Aug. 2019 - Present

- Hosted soldering and PCB design workshops. Obtained a sponsorship from Digikey

UCI ICS 33 Lab Tutor — Jan. 2020 - Apr. 2020

- Tutored over 25 students in **Python** and explained concepts to improve their problem solving skills

SKILLS

Proficient: C++, C, Python, Verilog, VHDL, PCB design, SQL

Familiar: SQL, Django, CAN