OLIVER GOCH

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Education

Universal of California, Los Angeles Graduating June 2020
Electrical Engineering B.S.
Major GPA: 3.6 | Cumulative GPA: 3.3

Relevant Courses: Data Structures, Computer Architecture, Circuit Theory, Digital Design, Software Construction, Algorithms, Operating Systems, Digital Signal Processing, Feedback Control, Machine Learning

Skills: C/C++, Linux/Unix, Microsoft Suite, Soldering, Arduino, Bash, Python, Circuit Design, Matlab

Experience

Nano and Bio Photonics Laboratory Present

- Assist in cutting edge photonics research
- Design and assemble circuits necessary for projects
- Learning new technology such as Adobe Inventor

Projects

Music Box April 2018-May 2018

- Designed a circuit that revolved around a photoresistor and an MP3 decoder
- Based on photoresistor modulating 9V load according to the amount of light present, if light was present music would play
- Prototyped circuit on breadboard before using soldering skills to assemble

IOT Server Communication June 2018

- Designed a server communication based on a Beaglebone, a microcontroller
- Programmed the entire project in C, based on TCP and TLS communication
- Calculated time and temperature based on sensors, to send to the server

EXT2 File System Parser May 2018

- Cooperated with a partner to create this program that would automatically parse and summarize an EXT2 Image
- Developed entire program in C, using knowledge we taught ourselves about EXT2 File System
- Program parsed the massive file system, printing information about superblock, groups, free blocks, etc. neatly in a CSV file
- Taught ourselves new functions vital to completion of the project

Line Following Robot November 2017-December 2017

- Cooperated with a partner to create this robot centered around an Arduino Nano
- Programmed Arduino in C, centering the design around Proportional Integral Derivative control
- Assembled circuit based off a diagram, utilizing 3 IR sensors to send analog signals to the Arduino and employing an emitter follower arrangement with 2 NPN transistors to control two DC motors
- Controlled two DC motors with the Arduino and two NPN transistors and 3 IR sensors in an emitter follower arrangement

Leadership

Bruin Racing – Electric Vehicle Electrical Subsystem Lead Present

- Managed a small team in charge of wiring the vehicle, collecting data, and teaching new members
- Utilized skills in battery technology, PCB design, circuit construction, datasheet knowledge, component expertise to complete a variety of tasks to build the electrical systems of the vehicle
- Researched and selected data acquisition technology and sensors to properly collect measurements for vehicle
- Instructed new members in learning techniques of data acquisition and power and wiring

MentorSEAS Present

- Mentor new members of UCLA Engineering, teaching them valuable skills from my experience
- Lead group social activities with new scholars

Bruin Racing – Electric Vehicle New Member Training September 2017-June 2018

- Taught new members basics of Electrical Engineering and organizing projects for them to complete