

# Shawn Y. Oh

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## EXPERIENCE

### Western Digital- RAMP Firmware Intern (Incoming)

San Jose, CA  
June 2021 - September 2021

## EDUCATION

### University of California, San Diego

Major GPA: 3.62; Cumulative GPA: 3.54

Bachelor's of Science, Electrical Engineering; Machine Learning Depth

La Jolla, CA  
Graduating Dec 2021 (Expected)

## PROJECTS

### Function Prediction Neural Network-

November 2020 - December 2020

*Python, Machine Learning, Statistics, Nonlinear Algebra, Optimization, Jupyter Notebook*

Built neural network from scratch to approximate the values of various nonlinear functions of 3-D data using Python  
Derived complex equations for weights using advanced nonlinear algebra (Levenberg-Marquardt algorithm)  
Implemented machine learning heuristics with regularizers to train neural net weights

### VLRScrape Engine-

June 2020 - July 2020

*Python, Webscraping, Clustering, Statistics, Data Analysis*

Used Python webscraping to retrieve regional video game performance statistics from numerous different sites  
Implemented derived statistics algorithms and formatting to cluster large data into easily comprehensible figures  
Incorporated dynamic settings that allow for easy custom graphic creation using scraped data

### Garage IoT Hub-

June 2020 - August 2020

*Hardware Design, Embedded Systems, ESP32, Arduino, C++, CAD, Fusion 360, Sensors*

Created device to assist elderly parents with parking in a dark, crowded garage using I2C controlled LEDs & sonars  
Hub also monitors status of garage door and two cars, and relays all information to an MQTT server  
Server fully integrates with home automation system to allow for convenient access to data from mobile phone  
Used CAD and 3D printing to make a modular and non-intrusive enclosure as well as sensor mounts

### Healthy Aging Wearable Device-

January 2019 - March 2019

*Hardware Design, Embedded Systems, Arduino, C++, Python, Bluetooth, IMU, Sensors*

Designed and built a wrist-attached prototype device for senior citizens that monitors and saves heart rate data  
Utilized signal processing, training and validation data sets to model and predict a given user's heartbeat pattern  
Implemented a Bluetooth-interfaced motion sensor (IMU) and OLED to signal alarm for emergency fall detection

## SKILLS

Software: Experienced with  
**Python, Java, C, MATLAB,**  
**LTSpice, SystemVerilog**

Hardware: Experienced with **Embedded**  
**Systems, Hardware Design, Machine**  
**Learning, CAD, 3D Printing, PCB Design**

ETC: **Quick Learner, Leadership,**  
**Passionate about Engineering,**  
**Good Communicator**

## LEADERSHIP

### Cyber Patriot- Cygnus Team Captain

March 2017 - June 2018

Led a computer/network security team that participated in various national competitions, finishing 15th nationally  
Secured various types of operating systems and network configurations to professional standards

### Computer Science Club- Secretary

August 2017 - June 2018

Developed and managed numerous large-scale coding projects using C, Java and Python  
Fostered interest for computer science by providing a welcoming and beginner-friendly environment