James **McDougall**

Computer Engineer – Backend, Hardware, and IoT Enthusiast

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Education

University of California, San Diego — *La Jolla, CA*
B.S. in Computer Engineering — *Expected June 2021*

- RA for one year in Warren College

Skills

Programming Python, C/C++, Java, JavaScript, TypeScript, ReactJS, Latex
Tools Git, Flask, Linux, Bash, Visual Studio

Experience

Computer Science Tutor in the **UCSD CSE department** *January 2019-Present*

- Undergraduate TA for CSE 100 (Advanced Data Structures in C++), CSE 95 (CSE Tutor Training) for Christine Alvarado
- Proctor and grade exams; grade homework; hold lab hours
- Help students debug C++11 code; explain data structures and algorithms

Backend Developer at **Nimber, Inc. - student startup** *January 2019-Present*

- Implemented backend utilities in Python3 using OpenCv to extract facial feature vectors and compare against other faces
- Benchmarked OpenCv Facial Recognition package and produced a report of average times for successes and failures
- Installed Ubuntu onto a Jetson TX1 and optimized for use with the OpenCv library in C/C++

Data Analyst in the **UCSD CSE department** *August 2018*

- Performed statistical analyses (t and z tests) on data from a computer science education research project in a Jupyter Notebook using Python, Pandas
- Developed a report of the analyses, describing research methods and communicating results

Projects

Chicago Crime Analysis using **Jupyter, Python, Pandas, on Github('Project')** *January 2019*

- Predicted likelihood of arrest from district and crime type using a Binomial regression

ServerPi using **PHP, Raspberry Pi, Nginx** *December 2018*

- Built a server that would allow my family to store photos to a 'cloud' within our home network

DiamondBot using **C, Arduino, on Github** *October 2018*

- Built a robot using C on the Arduino IDE that manipulated rotors and lights

Ultrasonic Sensing Robot (MAUSR) using **Python, Raspberry Pi, on Github** *August 2017*

- Built a small vehicular robot that used ultrasonic sensors to detect and avoid obstacles