

Alan Casallas

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Education

Massachusetts Institute of Technology (MIT)

Cambridge, MA

Master's in Electrical Engineering and Computer Science, 5.0/5.0

August 2019

Bachelor's in Electrical Engineering and Computer Science, 4.9/5.0

May 2019

- **Selected Classes:** Computer Security, Operating Systems, Distributed Systems, Computer Vision, Statistical Machine Learning, Algorithms, Computer Architecture, Feedback Control, Analog Circuits, Manufacturing

Skills

Languages: Python, Java, C/C++. Familiar with HTML5 and JQuery.

Technologies: Android API, Scipy/Numpy, Scikit-learn, Tensorflow, MATLAB, Linux/Unix

Electromechanical: Arduino, Eagle, Solidworks, MasterCAM, Lathe, Mill, Laser Cutter, CNC machines

Experience

MIT

Cambridge, MA

Machine Learning and DSP Researcher

September 2017 - Present

- Designed sensor array to estimate current and voltage levels in a set of cables. Implemented spatial filtering of signals using techniques such as linear phase filters, linear regression, PCA, and neural nets.

Loment

Cambridge, MA

Android Developer

June-August 2017

- Patched bugs and added video, audio, and Ethereum blockchain functionality to company SDK.
- Refactored the company's flagship app to utilize the company SDK and reflect OOP design principles.

Ford

Dearborn, MI

Software Engineer

June-August 2016

- Developed custom media player to allow technicians to play a simulation of user interactions with touchscreen SYNC modules. Used Kivy UI framework for Python.

Affectiva

Waltham, MA

Android Developer

June-August 2015

- Implemented upgrades to the Affectiva SDK, which detects human emotions using computer vision.
- Created the sample app AffdexMe for Android, now available on the Google Play Store.

University of Washington

Seattle, WA

Assistant Researcher

June-August 2014

- Programmed an MSP 430 Microcontroller in C to sample accelerometer and gyroscope data from a serial board and transmit the data via Bluetooth. Gained experience using I2C, SPI, and UART.

Projects

Design & Manufacturing I Competition (2.007)

February – May 2016

- Designed and built remote-controlled aluminum robot using machines such as mill, lathe, and waterjet.

MASLAB Competition

January 2015

- Designed and built autonomous robot made of MDF to pick up and place objects in an obstacle course.