

# Joshua Field

<https://joshfield.com>

626.616.6320

[joshfield99@gmail.com](mailto:joshfield99@gmail.com)

[github.com/joshField](https://github.com/joshField)

[linkedin.com/in/joshfield](https://linkedin.com/in/joshfield)

## Education

**Northeastern University** | Candidate for BS, MS in Computer Engineering

*Boston, MA*

**GPA:** 3.74 | **Graduation Date:** May 2022 | 4th Year

Courses: Machine Learning | Robotics Sensing & Navigation | Object Oriented Design | Networks |  
Computer Vision | Electronics | Statistics | Differential Equations | Calculus 3

Activities: AerospaceNU | NUAUV Project Lead

Awards: Dean's List | NASA Space Apps Hackathon - Boston (1st Place) | Eagle Scout

## Experience

**California Institute of Technology** | Software Engineering Intern Summer '18, '19 & '20

*Pasadena, CA | Python, Java, AWS, Arduino, SQLite*

- Created predictive maintenance regression and classification models to predict the remaining useful life, and most likely root cause of a given failure
- Implemented unsupervised anomaly detection models using clustering and autoencoder methods.
- Coded an Android app to monitor the sensor network with a backend of SQLite & Amazon Web Services (DynamoDB, IoT, Cognito, Lambda, SNS)
- Developed a smart maintenance sensor network that monitors the treatment of waste water using an Arduino & Raspberry Pi

**Scientific Systems Company Inc.** | Software Co-op (Autonomy Group) Jan '19 - Jun '19

*Woburn, MA | C++, Python, MATLAB*

- Developed collaborative autonomy software for path planning missions, focusing on algorithm development and simulation testing
- Worked on and tested in simulation Multi-UAV RF localization algorithms & software
- Created a graphical interface to visualize simulation log output using wxPython

## Skills

**Programming:** C++, Python, MATLAB, Java **Familiar with:** C, C#

**Libraries:** OpenCV, Scikit, Pandas, Keras

**Technology:** ROS, Android Studio, AWS, Unity, SQLite, Simulink, SolidWorks

## Projects

**AeroNU Software Projects** Jan '19 - Now

*Python, C++, OpenCV, ROS*

- Creating a Behavior Tree library for mission planning
- Developed an autonomous platform with Dronekit & ROS, for localizing a rocket & precision landing with ArUco markers
- Created an object classifier & worked on quadrotor path planning and control models in the FlightGoggles simulator for the AlphaPilot Competition

**Wiimote Robotic Arm**

Spring '18

*C++, Simulink, FPGA*

- Created a Simulink program to generate PWM signals on a ZedBoard FPGA, to control servos in the arm
- Coded a C++ program to connect the bluetooth signals of a Wiimote to interact with the FPGA