

Joshua Field

<https://joshfield.com>

626.616.6320

joshfield99@gmail.com

github.com/joshField

linkedin.com/in/joshfield

Education

Northeastern University | Candidate for BS, MS in Computer Engineering

Boston, MA

GPA: 3.78 | **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