Joshua Field

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Education

Northeastern University | Candidate for BS, MS in Computer Engineering

Boston, MA

GPA: 3.74 | **Graduation Date:** May 2022 | 3rd Year

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

Activities: AerospaceNU | NUAV 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

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.
- 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

Johns Hopkins Engineering Innovation | Summer Course — Jun '16 -Aug '16

Pasadena, CA | SolidWorks

- Built the strongest spaghetti bridge in course competition using truss analysis
- Reverse engineered and rebuilt a light sensing robot

Skills

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

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

Projects

AeroNU Software Projects — Jan '19 - Now

Python, OpenCV, ROS

- Currently developing an autonomous platform with Dronekit, for a drone to localize a rocket.
- 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