

# Blake McHale

SOFTWARE ENGINEER

☎ (860) 917-7315 | ✉ mchale.blake@gmail.com | 🏠 blakemchale.com | 🔗 blakermchale | in blake-mchale

## Education

### Northeastern University

Boston, MA

CANDIDATE FOR BACHELOR AND MASTER OF SCIENCE IN COMPUTER ENGINEERING, GPA: 3.84

Expected May 2022

- **Relevant Courses:** Mobile Robotics | Artificial Intelligence | Assistive Robotics | Robotics Sensing & Navigation | Machine Learning | Statistics & Stochastic Processes | Object Oriented Design | Algorithms
- **Activities:** Northeastern Unmanned Aerial Vehicles (Founding Member) | Colleges Against Cancer
- **Awards:** Honors Program, Eta Kappa Nu, Eagle Scout, Dean's Scholarship, Dean's List, NASA International Space Apps Challenge Boston (1st place)

## Skills

**Computer Applications** ROS/ROS2, Gazebo, Unreal Engine, Unity, SolidWorks, Excel, Access  
**Languages** C++, Python, MATLAB, Java, Javascript | Familiar with VBA, HTML, CSS, SQL, C#

## Experience

### MITRE

Bedford, MA

PNT PLATFORM SOFTWARE INTERN | PYTHON

June 2020 - Aug. 2020

- Added continuous integration and online documentation for signal propagation simulation internal python package
- Implemented path loss models that utilized terrain maps
- Extended positioning methods to support various earth models

### Naval Submarine Medical Research Laboratory

Groton, CT

NREIP SOFTWARE INTERN | PYTHON

June 2019 - Aug. 2019

- Worked on using machine learning to predict reaction time in sleep deprived individuals
- Utilized TensorFlow to construct a neural network framework for analyzing model performance
- Tested and evaluated results of various machine learning techniques

### Scientific Systems Company Incorporated

Woburn, MA

SIMULATIONS ENGINEERING CO-OP (ACTIVE PERCEPTION GROUP) | C++, PYTHON, JAVASCRIPT

Jan. 2019 - June 2019

- Built environments with artificially intelligent characters in Unreal Engine
- Designed software for testing and simulating UAVs actions with AirSim
- Tested and developed control systems for managing multiple drones within subterranean environments in the Gazebo simulation environment
- Constructed base station interface for interacting with robot through ROS for subterranean competition

### Supervisor of Shipbuilding Groton

Groton, CT

STUDENT TRAINEE (OFFICE AUTOMATION) | SQL, VBA

June 2018 - Aug. 2018

- Developed, designed, optimized, and secured database containing PII
- Wrote programs that helped optimize flow of NOFORN, confidential, and unofficial documents
- Attended arrangement meetings and engaged with engineers discussing submarine systems

## Projects

### AerospaceNU - NUAU Software

PROJECT LEAD | C++, PYTHON

June 2019 - Present

- Created behavior tree library for performing missions with ROS
- Teaching new members and students how to use ROS/ROS2 to control rover and drone autonomously
- Leading design of rover and drone for simulation in Gazebo
- Designing software platform for a swarm of drones that can precisely land on ArUco markers and locate rockets with ArduPilot

### AerospaceNU - NUAU AlphaPilot

PROJECT LEAD | C++, PYTHON

Jan. 2019 - June 2019

- Created image classifier with YOLO architecture
- Designed controls/localization system for UAV in FlightGoggles simulator