

# Blake McHale

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## EDUCATION

### Northeastern University, Boston, MA

Candidate for Bachelor of Science in Computer Engineering

Expected May 2022

Pursuing Minor in Robotics

Current GPA: 3.84

- Relevant Courses: Linear Systems, Statistics & Probability, Digital Design, Algorithms, Embedded Robotics, Biomedical Circuits and Signals, Fundamentals of Networks
- Activities: AIAA Northeastern Unmanned Aerial Vehicles (Project Lead/Founding member), Colleges Against Cancer
- Awards: Honors Program, Eagle Scout, Dean's Scholarship, Dean's List, NASA International Space Apps Challenge Boston (1<sup>st</sup> place)
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## SKILLS

**Computer Applications:** Unreal Engine, Gazebo, Unity, SolidWorks, Simulink, Excel, Access

**Programming:** C++, Python, JavaScript, Java, VBA | Familiar with MATLAB, HTML, CSS, SQL, C#

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## WORK EXPERIENCE

### Naval Submarine Medical Research Laboratory, Groton, CT

Jun'19 – Aug'19

NREIP Software Intern | Python

- ⊙ 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

Jan'19 – Jun'19

Simulation Engineering Co-op (Active Perception Group) | C++, Python, JavaScript

- ⊙ 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

Jun'18 – Aug'18

Student Trainee (Office Automation) | SQL, VBA

- ⊙ 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
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## PROJECTS

### AIAA – NUAV RECON

Jun'19 – Present

Project Lead, Member | C++, Python

- ⊙ Teaching new members and students how to use ROS to control rover autonomously
- ⊙ Leading design of robot for simulation in Gazebo
- ⊙ Designing drone for identifying rockets in a field

### AIAA – NUAV Alpha Pilot Competition

Jan'19 – May'19

Project Lead | Python

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

### Crash Course, Embedded Robotics

Sept'18 – Dec'18

C++

- ⊙ Created obstacle avoidance game drawn with ASCII characters in terminal
  - ⊙ Coded interface between the user's wiimote and ZedBoard over Bluetooth
  - ⊙ Maintained details within game such as player score and lives
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## VOLUNTEER EXPERIENCE

### Palestra, Ledyard High School, Ledyard, CT

Fall 2015 – Spring 2017

President

- ⊙ Race Director for the *Colonel Classic 5k for Conor* (organized and managed donations from businesses for the event, raised \$7000, also created a scholarship fund)
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## INTERESTS

Soccer, basketball, tennis, running, hiking, climbing, singing, and playing guitar