

Henry Noyes

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EDUCATION

Northeastern University

Boston, MA

MS in Robotics

Sep 2024–May 2026

BS in Mathematics and Physics, Minor in Data Science | GPA: 4.00/4.00

Sep 2020–May 2024

Honors: NASA Space Technology Graduate Research Fellow, 2022 NASA BIG Idea Challenge Artemis Award,

Massachusetts Space Grant Consortium Fellowship, ASME SMRDC 1st Place, Dean's List, National Merit Scholarship

Relevant Coursework: Practical Neural Networks, Machine Learning, Multimessenger Astrophysics, Thermodynamics and Statistical Mechanics, Modern Physics, Classical Dynamics, Electronics, Group Theory, Linear Algebra

PROFESSIONAL EXPERIENCE

Robotics and Intelligent Vehicles Research Laboratory (RIVeR)

Boston, MA

Robotics Engineer

Jan–June 2023

- Led the data processing and system integration efforts on a DARPA-funded mixed reality project focused on perceptually-enabled task guidance (PTG)
- Developed a software architecture in ROS2 and Python to efficiently collect and store streams of data from the Microsoft HoloLens 2 headset
- Created an automated object annotation pipeline using OptiTrack motion capture and computer vision tools such as OpenCV
- Assisted in building machine learning frameworks for object detection and action recognition models to be deployed on an augmented reality headset

MAAT Energy

Cambridge, MA

Plasma Engineer

Jan–June 2022

- Conducted daily research experiments with different microwave plasma reactors, operating a high-power magnetron, gas-analyzer, and up to 6 mass flow controllers
- Modeled electromagnetic fields in COMSOL to assist plasma applicator design, increasing ignition success rate by ~50%
- Developed, fabricated, and tested 3 novel solutions to microwave plasma ignition that are scalable to high-power systems
- Consolidated findings in 5 detailed reports that were submitted to the U.S. Department of Energy

RESEARCH EXPERIENCE

Silicon Synapse Lab

Boston, MA

Student Robotics Researcher

Sep 2021–Present

- Performed literature review on power storage and transfer for 20-page proposal on novel mobility solutions for lunar craters with limited sunlight
- Assisted in the brainstorming and creation of the COBRA system (Crater Observing Bio-inspired Rolling Articulator). COBRA is a modular snake robot capable of sidewinding and tumbling with a mission to measure ice concentration in permanently shadowed lunar craters
- Served as Electrical Lead for team of 11 students selected as 1 of 7 finalists for the 2022 NASA BIG Idea Challenge, receiving \$170,000 to fully develop and construct a functional prototype
- Designed, built, and successfully tested a power infrastructure for COBRA utilizing lithium polymer batteries
- Awarded the Artemis Award, the top honor of the forum given to the concept with the best potential to contribute to and be integrated into an Artemis mission

SKILLS

Software Skills: Python, ROS/ROS2, SolidWorks, Git, Bash, Next.js, RF modeling in COMSOL, basic MATLAB, LaTeX

Hardware Skills: 3D Printing, Soldering, Laser cutting, Circuit design and assembly, Arduino