Alyssa Roberts

Boston, MA | +1 (732) 754-2890 | roberts.aly@northeastern.edu

Education

Northeastern University, Boston, MA
Bachelor of Science in Computer Engineering and Physics (GPA: 3.7) — Expected May 2028
Northeastern University, London, UK — Spring 2025
Northeastern University, Oakland, CA — Fall 2024
Honors*:* John Martinson Honors Program, Dean's List
Coursework*:* Modern Physics, Calculus, Differential Equations and Linear Algebra, Embedded Design, Fundamentals of Networks, Circuits and Signals, Engineering Algorithms, Digital Design, Discrete Structures
Extracurriculars*:* NU Women & Gender Minorities in Physics, NU Club Fencing, MIT Quantum Winter School
Achievements*:* Literacy Narrative Published in Online Journal (NU Writing link)

The Lawrenceville School, Lawrenceville, NJ — June 2024
Honors*:* High Honors, Dean's List (GPA: 3.65)
Extracurriculars*:* Big Red Bike Shop (Founder), Varsity Fencing (Captain), Engineering Club
Achievements*:* Ethical Hacking Essentials (EHE) Course Certificate

Technical Skills

Hardware: FPGA, Oscilloscope, Multimeter, Raspberry Pi, Arduino
Software: SolidWorks, AutoCAD, Xilinx Vivado, Quartus Prime, PSpice
Programming Languages: C/C++, Python, JavaScript, HTML, CSS, Robot C, Wolfram Mathematica, MATLAB
Machine Learning: Foundational experience in classification and regression using Wolfram Mathematica

Work Experience

Northeastern University College of Engineering, Boston, MA — August 2025 – Present
First Year Engineering Teacher's Assistant

- Advising and grading engineering students to ensure consistent and timely evaluation across sections.
- Collaborating with the professor and other TAs to monitor students' progress and identify students needing additional support.

Disability Access Services Notetakers, Oakland, CA — Fall 2024
DAS Notetaker

- Crafted detailed notes for each chemistry lecture to support students with documented accommodations.

Technical & Research Projects

Temperature Dependent Characterization of Organic Photodiodes, Boston, MA — Spring 2026 – Present
Research

- Conducting temperature-dependent current-voltage measurements of organic photodiodes under dark and illuminated conditions.
- Fitting experimental data using physical diode models written in MATLAB to extract parameters related to charge generation and recombination.
- Analyzing trends in extracted parameters across temperature and illumination conditions to inform device optimization.

Autonomous Watering System for House Plants, London, UK — Spring 2025
Project

- Programmed an Arduino-based autonomous watering system that monitored water level and soil moisture sensors to control a motor-driven water pump.
- Developed C++ control logic on a RedBoard to automate pump activation and display real-time soil moisture data, while notifying users when the water source required.