ARMEN MANUCHARYAN

armanuch@bu.edu | 617-902-8113 | Boston, MA 02127 |Portfolio

EDUCATION

Boston University, College of Engineering — Boston, MA
Bachelor of Science, Mechanical Engineering — May 2026

- GPA: 3.50/4.00

EXPERIENCE

Reach Robotics — Sydney, NSW
Mechanical Engineering Intern — Feb 2024 - Jul 2024

- Designed a reusable, modular, scalable, remotely accessible, and self-contained advanced ROV manipulators test stand which will be deployed off a jetty or marina
- Sourced parts and materials for initial prototyping and testing
- Created SolidWorks drawings and specifications to send for part manufacturing

Boston University Morphable Biorobotics Lab — Boston, MA
Undergraduate Research Assistant — Aug 2024 – Present

- Advised by Dr. Tommaso Ranzani and with PhD student, integrated hybrid soft robots individual parts into a single jet-propelled robot and conducted experiments to characterize its performance, as well as design and manufacture new parts.
- Proposed, designed, and fabricated prototypes to optimize strength, efficiency, and integrity
- Manufacture a hydrodynamic shell to house the components, ensure neutral buoyancy, maintain proper tolerances, and address current issues related to the center of mass and center of gravity

Boston University Fluid Lab — Boston, MA
Undergraduate Research Assistant — May 2023 – Aug 2024

- Formulated and manufactured variable experimental angled hydrophobic test stands to record videos using two High-Speed cameras of different angles of a water droplet impacts
- Wrote multiple programs to post-process images and videos taken from two high-speed cameras to gather data about water droplet impact on hydrophobic surfaces
- Collaborated and assisted two Ph.D. students in improving possible thesis questions and experiments

Einstein's Workshop — Burlington, MA
Teacher Assistant and Mentor — Jun 2019 - Aug 2022

- Engaged students from ages five to sixteen in a classroom setting about various science-related topics varying in difficulty based on age
- Taught engineering, game design, basic programming, physics, art through science, and video game architecture

PROJECTS

Rocket Fuel Injector, BU Rocket Propulsion Group — Nov 2022 - May 2023

- Collaborated with a group of four in building, testing, and implementing a pintle rocket fuel injector to test and gather data for future Boston University rocket designs
- Utilized SolidWorks to design rocket pintle injector and manifold

Room Occupancy Monitor — Sep 2023 - Dec 2023

- Devised and developed in a group of four a device to prevent dangerous overcrowding in an indoor space by warning users when capacity has been met
- Utilizes two PWM LEDs and IR sensors with a 99% accuracy in tracking number of people entering and leaving a closed area

Lutron Lighting Innovation Competition — Jan 2023 - Feb 2023

- Designed and developed a 3D printed decorative lighting system that also acted as a humidifier water fountain, inspired by gardening decoration in the shape of a mushroom
- Formulated and prototyped using OnShape

LEADERSHIP

Armenian Students' Association, Treasurer — May 2023 - Present

- Managed organization's budget, overseeing all financial transactions, and ensuring accurate record-keeping
- Coordinated funding with BU Allocations Board
- Collaborated with the E-board in organizing future club events and fundraisers

SKILLS

- SolidWorks, OnShape, C, MATLAB, JAVA, Python, Microsoft Office, Excel, Teaching, Drill Press, Soldering, 3D Printing, Laser Cutting, High Speed Video Photography
- Armenian (Native Proficiency) - Received the Massachusetts Seal of Biliteracy with Distinction - June 2022