# ARMEN MANUCHARYAN

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## **EDUCATION**

**Boston University, College of Engineering** 

- Bachelor of Science, Mechanical Engineering
  - GPA: 3.50/4.00

## **EXPERIENCE**

#### **Reach Robotics**

Mechanical Engineering Intern

- 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**

Undergraduate Research Assistant

- 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**

Undergraduate Research Assistant

- 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**

Teacher Assistant and Mentor

- 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

- 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**

- 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

- 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

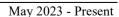
#### **LEADERSHIP**

## Armenian Students' Association, Treasurer

- 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 ٠

# 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



Aug 2024 - Present

Boston, MA

Svdnev, NSW

Boston, MA

Feb 2024 - Jul 2024

May 2026

Boston, MA

# May 2023 – Aug 2024

Jun 2019 - Aug 2022

Burlington, MA

Nov 2022 - May 2023

Sep 2023 - Dec 2023

Jan 2023 - Feb 2023