

# ARMEN MANUCHARYAN

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## EDUCATION

**Boston University, College of Engineering**  
Bachelor of Science, Mechanical Engineering

- GPA: 3.5/4.0

Boston, MA  
May 2026

## SKILLS

- SolidWorks · Onshape · Python · C · MATLAB · Prototyping (3D printing/laser/drill/solder) · Excel · high-speed imaging · teaching/mentoring · Armenian (Seal of Biliteracy-Distinction, Jun 2022)

## PROFESSIONAL EXPERIENCE

### General Dynamics Mission Systems

Manufacturing Engineering Intern

Pittsfield, MA  
May 2025 - Present

- Designed an assembly aid that cut heating sensor bonding time by 35%, accelerating production cycles and increasing throughput
- Engineered a MATLAB-based method leveraging route sheet data to generate performance metrics for the Trident D5 Nuclear Missile Program, enabling multiple departments to monitor and improve assembly time.
- Created a 3D printing onboarding guide adopted team-wide, reducing new-hire training time and standardizing knowledge transfer.

### Boston University Morphable Biorobotics Lab

Undergraduate Research Assistant (Grant funded by UROP)

Boston, MA  
Aug 2024 - Present

- Integrated soft robotic subsystems into a jet-propelled prototype and conducted experiments that quantified propulsion efficiency and system durability.
- Designed and fabricated prototype iterations to optimize structural strength, energy efficiency, and long-term reliability of soft robotic actuators.
- Invented and manufactured a novel soft pump actuator, with patent filing in progress, focused on scalable, robust manufacturing and improved energy efficiency.

### Reach Robotics

Mechanical Engineering Intern

Sydney, NSW  
Feb 2024 - Jul 2024

- Streamlined sourcing and prototyping of mechanical components, optimizing procurement workflow and cut costs by 20%
- Engineered a modular, remotely accessible ROV manipulator test stand for deployment at marine sites, improving reusability, scalability, and field-testing efficiency
- Redesigned a torque gauge to rotor jig in SolidWorks, adding a wire-routing hole that prevented pinching and allowed use with the encoder installed, improving manufacturability and reducing assembly failures.
- Developed a silicone potting jig for FPCs with spring pads, streamlining resin application to waterproof the motor FPC puck and improving manufacturing consistency and reliability.

### Boston University Fluid Lab

Undergraduate Research Assistant

Boston, MA  
May 2023 - Aug 2024

- Designed and fabricated a variable-angle hydrophobic test stand and mirror imaging setup, enabling high-speed video capture of droplet impacts from multiple perspectives without repositioning cameras.
- Developed MATLAB image analysis tools (binarization, filtering, velocity extraction) to automate droplet and bubble impact measurements, improving accuracy and reducing manual processing time.
- Constructed a bubble tank test stand to evaluate shear stress on angled surfaces, supporting applications in ship hull cleaning and marine environmental studies.
- Collaborated with Ph.D. researchers to refine experimental methods, providing data and analysis that contributed to ongoing dissertation work.

### Einstein's Workshop

Teacher Assistant and Mentor

Burlington, MA  
Jun 2019 - Aug 2022

- Taught interdisciplinary STEM courses to 100+ students ranging ages from 5-16, tailoring lessons in robotics, game design, and physics
- Guided student-led projects on projects such as Scratch, LEGO Robotics, and art projects, reinforcing technical skills through hands-on experience in teamwork and collaboration

## LEADERSHIP

**Armenian Students' Association**, Treasurer

May 2023 - Present

- Managed \$3000 organizational budget and raised \$1,500 through fundraising, allocating funds with BU Allocations Board
- Collaborated with the executive board to plan and execute cultural events and fundraisers, boosting community engagement and participation

## ENGINEERING PORTFOLIO

- Engineering Portfolio: [www.armenmanucharyan.com](http://www.armenmanucharyan.com)