# ALEXANDER NORMAN

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## EDUCATION

**Boston University** | Boston, MA *September 2024 -Present*

*Master of Science; Biomedical Engineering*

**Wentworth Institute of Technology** | Boston, MA *August 2021-April 2024*

*Bachelor of Science; Biomedical Engineering; Chemistry Minor; Magna Cum Laude* ***[GPA 3.82]***

***Activities:*** Wentworth IEEE (E-board); BU IEEE; Academic Tutoring; BU Engineers Without Borders; BU Debate Society

***Relevant Coursework:*** Organic Chemistry I & II; Inorganic Chemistry; Anatomy and Physiology I & II; Biostatistics; Bioinstrumentation; Medical Imaging & Optics; Engineering Mechanics

## SKILLS

***Technical:*** Animal Culture; Cell/Tissue Culture; Immunofluorescence Staining; Bioassays; High-Performance Liquid Chromatography [HPLC]; NMR Spectroscopy; IR Spectroscopy; UV Spectroscopy; Mass Spectrometry; Soldering; Welding; Emergency Medical Treatment; Analog and digital circuits; breadboard/data acquisition board; 3D printing; Milling; Laser Cutting

***Software/Devices:*** GraphPad; MATLAB; Python; R; C++; Arduino; JavaScript; LaTeX; Preform; SOLIDWORKS; nTopology; Multisim; Tina-TI; Tinkercad; Oscilloscope; Function Generator; Multimeter; Power Supply; TI MSP430 Microcontroller; Strain Gauge; EMG; EKG/ECG; Ultrasound; 3D Printer

## PROFESSIONAL EXPERIENCE

***Wentworth Institute of Technology*** | Boston, MA *May 2022-Dec 2023*

*Undergraduate Research Assistant*

- *Created and printed 3D models of parts on 3D modeling software using 3D printer and mill*
- *Programming electronic parts to function properly*
- *Designed an official scientific poster branded by Wentworth outlining the results of the past few semesters of research*
- *Presented research findings at an APS physics conference at Amherst college and a Wentworth research showcase*

**Wyss Institute at Harvard University** | Boston, MA *May - Aug 2023*

*Research Assistant Intern*

- Conducted enzyme assays and analyzed the resulting data using Microsoft Excel
- Created products to make 4 research projects more efficient using Preform, Insight, and SOLIDWORKS
- Presented progress on research tasks at weekly/biweekly meetings using PowerPoint presentations
- Manufactured PDMS chips for 2+ projects using plot and laser cutter utilizing microfabrication techniques
- Observed and analyzed coagulation time for blood samples in an environment simulating blood vessels
- Grew and stained numerous cell cultures to identify the expression of proteins

**Cataldo Ambulance Service** | Boston, MA *May - Oct 2021*

*Emergency Medical Technician [EMT]*

- Administered drugs to patients, including: Narcan, Nitroglycerin, Aspirin, and Oxygen
- Used proper medical equipment on patients, including C-collars, BVMs, OPAs, stretchers, scoop stretchers, and stair chairs
- Cleaned Assigned Ambulance Regularly, drove ambulance daily to destinations safely with sick patients

## PROJECTS

*Total Control* *January - August 2023*

- Built universal disability-accessible gaming controller more affordable than available at that time
- Communicated with professional gamers suffering from muscular diseases to gather a sense of product demographic

*Democratization of Van Der Waal's Materials using 3D printers and LED Lights* *May 2022 - May 2023*

- Manufactured custom platform attach to standard light microscope
- Presented final design at APS physics conference at Amherst College

## VOLUNTEERING

**US Paralympic Committee** | Boston, MA

*Paralympic Rowing Volunteer* *May 2019 - May 2021*

- Trained 1:1 in 8-boat with Paralympic rowers preparing crew for upcoming competitions
- Took part as trainer in 10+ paralympic rowing-related events

**Spaulding Rehabilitation Hospital** | Boston, MA

*Teen and Child Traumatic Injury Volunteer/Role Model* *June - August 2019*

- Inspired injured children going through hardships by using empathic and learned approaches
- Assisted physical and occupational therapists with cooking and play during daily therapy sessions