

# Justin Steenstra

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## Education

**Northeastern University**, *Candidate for Bachelor of Science in Mechanical Engineering*

**Present - December 2025**

GPA: 3.58/4.00

Boston, MA

**Relevant Courses:** Aeronautical Propulsion, CFD, Fluid Mechanics, Electrical Engineering, Thermal Systems, Thermodynamics, Dynamics, Statics, Mechanics of Materials, Differential Equations, Calc 1-3, Physics 1-2, Full Cornerstone Engineering

**Global Learning Experiences:** Northeastern University London, Northeastern University Seattle

## Skills

**Software/CAD:** Ansys, MATLAB, SolidWorks, AutoCAD, Arduino, Microsoft Suite

**Programming Languages:** C++, Java, Python

**Fabrication:** 3-D printing, laser cutting, standard tools

## Work Experience

**Construction Management**, *Barletta Heavy Division, Canton MA*

**January 2024 - June 2024**

- Designed a layout in AutoCAD for removable safety railings for a train wash system using survey locations and elevations to send a drawing to the manufacturer to construct the correct number and size of railings.
- Compiled \$34 million worth of construction change orders for additional work added to a job outside the scope of the initial contract with the MBTA to ensure the contract gets completed per the contract owner's wishes.
- Performed quality assurance checks on monthly update schedules and a 3-year schedule for the train maintenance facility project to make sure the project is on schedule and upholds the requirements of the contract with the MBTA
- Contacted vendors and manufacturers to get samples and/or product information that needed to be submitted to the MBTA per the specifications of the contract to complete the job properly and on time.
- Balanced ~\$688,000 of police details to ensure that Barletta upholds their reputation and relationship with the MBTA and the police departments that were utilized.
- Searched within contract specifications, equipment specifications and drawings, mechanical, plumbing, electrical, architectural, and structural drawings to ensure structures and equipment met the correct specifications and were installed properly as per the contract

**Dishwasher**, *Matakeese Warf, Barnstable, MA*

**July 2022 - August 2022**

- Maintained the cleanliness and upkeep of the kitchen by disposing of garbage, washing dishes, restocking, and organizing to pass health inspections for the restaurant to stay in business
- Prepared shellfish, asparagus, and green beans according to Barnstable food safety guidelines preventing cross-contamination so customers would come back to the restaurant

## Projects

**Redshift Propulsion Subgroup**, *Aerospace NU*

**September 2023 - Present**

- Designing a triplet-impinging fuel injector to be mounted on an ablative Lox and Kerosine liquid rocket engine to compete for the dollar-per-foot rocket challenge.
- Calibrated pressure transducers on a horizontal test stand to get the correct pressure drop values to determine the orifice size of the LOX pneumatic actuator for the liquid rocket engine.
- Replaced and tested the back pressure regulator and its pressure gauges for the nitrogen to LOX line on the horizontal test stand to have the correct downstream pressure for the LOX.

**Unibots Robotics**, *NU London Robotics*

**March 2023**

- Designed and assembled an autonomous robot proof of concept and prototype with a team of 4 within 3 weeks to compete at Unibots UK
- Created a battery holder in Fusion 360 and built using 3-D printing to safely house an 11-volt lithium-polymer battery within the robot in order to be competition-ready
- Winner of the University of Cambridge Unibots UK and awarded £500

**Museum Exhibit Game**, *Full Cornerstone of Engineering*

**October 2024 - December 2024**

- Led a team of 4 to design and create an interactive museum exhibit game prototype for under \$40 to be presented in an engineering expo to teach students and faculty about resilient engineering
- Soldered wires to LEDs and Buttons and connected them to an Arduino board for users to be able to interact with the museum exhibit
- Integrated game display images with corresponding buttons and LEDs within MATLAB for users to have a visually interactive experience to further engage in learning
- Created a 3-month Gantt chart for the project in Excel to meet project deadlines and delegate project tasks which aided in the overall completion of our project

## Interests

- Working on cars replacing brake pads, rotors, emergency brakes, batteries, and brake fluid lines.
- Traveling at every opportunity to experience new things and interact with new people and cultures