

# William Cusato

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## EDUCATION

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**Tufts University** | Medford, MA

Expected: May 2026

Bachelor of Science in Mechanical Engineering with Minor in Computer Science

GPA: 3.95, Dean's List: Fall 2022, Spring 2023, Fall 2023, Spring 2024, Fall 2024

**Coursework:** Materials and Manufacturing, Statics and Dynamics, Electronics and Controls, Engineering Design, Differential Equations, Thermal Fluid Systems, Data Structures, Algorithms, Discrete Mathematics, Numerical Methods

## WORK EXPERIENCE

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**Type One Energy Group** | Woburn, MA

May 2024 - August 2024

*Cryogenic Engineering Intern*

- Designed cryogenic magnet testing facilities for use with both liquid nitrogen and cryogenic helium.
- Tested and analyzed superconducting tapes and cables to measure the degradation of critical current.
- Utilized Ansys to simulate thermal strains and stresses on components exposed to cryogenic temperatures.
- Devised cryogenic helium-cooling arrangements for thermal shields that effectively maintain low temperatures.
- Wrote technical specifications and statements of work for procuring items worth over \$10,000.
- Presented clearly and effectively in large-scale design reviews on work crucial to the development of stellarators.

**Tufts University School of Engineering** | Medford, MA

September 2024 – Present

*Course Assistant, ME10 - Materials and Manufacturing*

- Grade homework in a timely manner for over 130 students on a bi-weekly basis.
- Attend and participate in regular meetings with fellow course assistants and Tufts University professors.

## PROJECTS

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**Fully Autonomous and Communicative Robotic Car**

- Utilized Python and a Raspberry Pi to communicate with other robots regarding position and speed.
- Collaborated with another robot to collectively push a cylinder up a ramp while maintaining autonomy.
- Developed a sturdy chassis system that successfully provided stability while maintaining simplicity.

**Production of Model Prosthetic Running Blade**

- Modeled a scaled prosthetic running blade in SolidWorks based on drawing dimensions.
- Designed and ran multiple Finite Element Analysis simulations to test the impact of a human running stride.
- Prototyped and tested plastic parts using multiple filaments efficiently with Markforged and Prusa 3D printers.
- Utilized an Instron Compressive and Tensile Machine to test the validity of FEA simulations.

## ACTIVITIES

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**Cross Country / Track and Field** | Tufts University | Medford, MA

August 2022 – Present

*Long-Distance Runner*

- Devote over 20 hours a week to practice, meetings, and competition to maintain strong performance.
- Contributed 5 points to lead the Track and Field team to its second consecutive conference championship.

**WMFO, Tufts Freeform Radio** | Tufts University | Medford, MA

September 2024 – Present

*Radio Host*

- Prepare and host a weekly, one-hour collaborative radio show called 'Affective Meltdown.'
- Volunteer 10 hours per semester toward the improvement and maintenance of the WMFO studio.

## TECHNICAL SKILLS AND INTERESTS

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**CAD and Simulation Applications:** Intermediate in SolidWorks, NX, Onshape, COMSOL, and Ansys.

**Computer Languages:** Proficient in C++ and Java; Intermediate in Python, LaTeX, and HTML.

**Interests:** Hiking, Reviewing and Critiquing Music, Running, Learning about Italian Culture and Language.