

Isabella Barbera  
bellabarbera@gmail.com | 781-254-8166 | Marblehead, MA 01945

---

As a recent mechanical engineering graduate, I have found my passions lie in organizing the complex and technical challenges brought about by engineering projects. Proficiency in organization, communication and project management are some of my strongest abilities that help me thrive in a dynamic, fast paced environment.

**Portfolio:** <https://ibarbera2.wixsite.com/website/portfolio>

---

#### Education and Training

<i>Fall 2021</i>	<b>Master of Science: Mechanical Engineering</b> <i>Northeastern University - Currently enrolled</i>
<i>May 2021</i>	<b>Bachelor of Science: Mechanical Engineering</b> <i>University of Vermont   Burlington, VT</i> Minor in Pure Mathematics Honors College Member, Tau Beta Pi Member, Badminton Club Member 3.74 GPA
<i>Spring Semester 2019</i>	<b>University of Glasgow Study Abroad: Mechanical Engineering</b> <i>University of Glasgow   Glasgow, UK</i> Relevant Coursework: Biosensors and Diagnostics, Acoustics and Audio Technology

---

#### Experience

<i>August 2020 - May 2021</i>	<b>Senior Design - Capstone</b> Position: Product Owner - Team lead regarding organization and product management. Design and test an improved mechanical heart valve. Balance all parts of the project with respect to medical requirements, financial concerns, client meetings and team dynamics. <i>Burlington, VT</i>
<i>May 2020 - December 2020</i>	<b>NRGTree - Solar Engineer</b> Analyze properties for their solar capability and sequentially design the PV rooftop/ground mount array. Perform electrical and financial analysis for property owners and present the results. Coordinate between client, financial team and suppliers. <i>Boston, MA</i>
<i>May 2019 - August 2019</i>	<b>Tufts University - Research Assistant</b> Design a control loop (Matlab) and flexible sensors for an experiment regarding an artificial pancreas. Condense results and deliver a final poster presentation. <i>Boston, MA</i>
<i>September 2017 - Dec. 2020</i>	<b>University of Vermont - Research Assistant</b> Work with Dr. Frederic Sansoz on a team in analyzing the mechanical behavior of silver nanowire networks. Design experiment and required test apparatus and tools using 3D modeling and printing. <i>Burlington, VT</i>

---

#### Activities and Honors

<i>August 2020 - Present</i>	<b>Honors Thesis - Fluid Dynamics of COVID-19</b> <i>University of Vermont Mechanical Engineering   Burlington, VT</i> Working to characterize the dispersion behavior of COVID-19 aerosols and droplets using computational fluids. Project focuses on comparing high and low fidelity computational code.
<i>September 2018 - Present</i>	<b>Chair of Media - UVM American Society of Mechanical Engineers</b> <i>University of Vermont   Burlington, VT</i> Promote UVM's mechanical engineering society. Design and fabricate a human powered vehicle as a team to compete in the international ASME E-fest competition. Part of the official American Society of Mechanical Engineers.
<i>February 2019</i>	<b>Lets Talk About [X] Presenter</b> <i>University of Glasgow   Glasgow, UK</i> Presented silver nanowire network research in a multidisciplinary research conference.

---

**Skills:** Autocad, Solidworks, Matlab, Python, Mathematica, Visual Basic, Scanning Electron Microscopy (EDS), Arduino, ANSYS Fluent (CFD), Aurora, PVSyst, Microsoft Excel, Trello, Organization, Product Development