Jessica Horowitz

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EDUCATION

Massachusetts Institute of Technology **Class of 2022**

- Candidate for Bachelor of Science in Mechanical Engineering, Minor in Energy Studies Cambridge, MA
- Coursework: Thermal-Fluids Engineering I, Dynamics and Control I & II, Mechanics and Materials I, Numerical Computation for Engineers, Differential Equations, Multivariable Calculus, Design and Manufacturing, Electronics for Mechanical Engineers, Introduction to Solid-State Chemistry, Energy Economics and Policy

RELEVANT EXPERIENCE

UROP – Swimming Drone for Greenhouse Gas Observation **January 2020-Present**
Undergraduate Researcher Cambridge, MA

- Customizing drone to be deployed in the Arctic to sense and map greenhouse gas concentrations
- Designing and fabricating tether management, water sampling, and actuated sonar system
- Project sponsored by Woods Hole Oceanographic Institution

MIT Hyperloop III Student Team **September 2019-January 2020**
Mechanical Engineering Team Member Cambridge, MA

- Designed a pod for the SpaceX Hyperloop Pod Competition by employing linear induction motors (LIMs) and magnetic levitation
- Performed Finite Element Analysis (FEA) in SolidWorks and used MATLAB to optimize stability

UROP - Tata-MIT GridEdge Solar Research Program **January 2019-May 2019**
Undergraduate Researcher Cambridge, MA

- Designed in SolidWorks and built a device to deploy lightweight, flexible solar panels to provide clean, accessible power for street vendors and agricultural water pumps in rural India
- Featured at Applied Energy "A+B" Symposium

LEADERSHIP AND INVOLVEMENT

Next Big Thing **September 2019-Present**
Project Manager Cambridge, MA

- Led the design and construction of a two-story medieval castle to capture the interest of MIT's incoming freshman class for Campus Preview Weekend
- Managed a group of six undergraduate students
- Collaborated with MIT Environmental Health and Safety, BMC Engineering Consultancy, City of Cambridge, and MIT administration
- Designed structure in Autodesk Fusion 360 and analyzed structure integrity, load capacity, and overturning

Undergraduate Association Committee on Sustainability **September 2018-Present**
Trash2Treasure Co-Lead Cambridge, MA

- Managed committee of 7 undergraduate students and 65 volunteers for a campus reuse program that collects and resells items donated by students at a low price to divert trash from landfills
- Led the collection of 14,300 articles of clothing for donation and 5,000 other items
- Generated $4,800 during the September sale, more than triple the amount raised in previous years
- Collaborating with MIT administration to expand Trash2Treasure and create a permanent thrift store on campus

Special Projects Member

- Collaborated with MIT Office of Campus Planning and MIT environmental science researchers to transform a lot on campus into a greenspace as part of the Special Projects subcommittee
- Wrote a proposal for a greenspace that promotes sustainability through interactive art and research exhibits

SKILLS/INTERESTS

Software: SolidWorks, MATLAB, Autodesk Fusion 360, Adobe Photoshop, Microsoft Word, Excel, PowerPoint
Hardware: Machining, Laser Cutting, Welding, 3D Printing, Soldering
Interests: MIT Sport Taekwondo Team, Mixed Martial Arts (black belt), Painting, Guitar