

Theo Usher

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EDUCATION

Columbia University, The Fu Foundation School of Engineering and Applied Science

New York, NY

Bachelor of Science, Mechanical Engineering

May 2024

Cumulative GPA: 4.03/4.0

Tau Beta Pi Engineering Honor Society

Relevant Courses: Intro to Electrical Engineering, Robotics Studio, Human-Centered Design and Innovation

WORK EXPERIENCE

Terabase Energy, Mechanical Engineering Intern

May 2022 – Aug 2022

- Designed and assembled a mobile, easy access solar panel storage rack for field deployment of fragile panels
- Collaborated with a team on a vehicle for solar panel transportation and installation in 400+ megawatt projects

Josh Gottheimer for Congress, Intern

Jun 2020 – Aug 2020

- Phone banked, researched campaign strategies, voter information, and voting logistics

Manhattan Borough President's Office, Intern

Jul 2019 – Aug 2019

- Wrote meeting reports, managed 150+ survey reports, and communicated with the NYPD for district events

LEADERSHIP & COMMUNITY INVOLVEMENT

Columbia Space Initiative - Rockets, Avionics Team Co-Lead and Recovery Group Lead

Sep 2020 – Present

- Work with a team to research, design, and build a hybrid rocket to reach 30,000 ft with a deployable payload
- Lead a 15-person team to design and manufacture the electronic components of the rocket
- Design and construct the mechanism for the ejection of the rocket nose cone and dual parachute deployment

Engineers Without Borders – Columbia University Chapter, Former Treasurer & Piping Lead

Sep 2020 – Present

- Work on a team to research, design, and plan the construction of a water distribution system in rural Morocco
- Streamlined the accounting system for the \$25,000 budget and recovered \$8,000 of missing money
- Lead team designing and planning implementation of 4 km of piping and water access points

ENGINEERING DESIGN PROJECTS

Introduction to Machining Project

Sep 2022 – Dec 2022

- Manufactured a mechanical jack using a mill, lathe, laser cutter, and CAMWorks Software

Golem – Bipedal Walking Robot

Jan 2022 – May 2022

- Designed bipedal walking robot using Solidworks and sketching
- Manufactured robot with 3D printing, screw inserts, and soldering
- Programmed and tested robot's bipedal walking using Raspberry Pi

Art of Engineering Project

Sep 2020 – Dec 2020

- Designed, coded, and built a Simon Says game using limited parts

Mechanical Engineering Project

Dec 2020

- Designed a 3D model of a rocket glider with folding wings, tested for lift and drag

Wooden Sea Kayak at Chewonki Boat Builders

Jul 2017 – Aug 2017

- Constructed and field tested a wooden, fiberglass, and epoxy sea kayak as part of Chewonki Boat Builders Program

SKILLS

Technical Skills: Computer Aided Design (Solidworks), Matlab, Ansys, Excel, Python, C++ , Computer Aided Manufacturing, Circuit Design (Eagle), Robotics, Iterative Design, Finite Element Analysis (Solidworks), PowerPoint

Non-Technical Skills: Strong Oral and Written Skills, Leadership, Presentation, Collaboration, Organization

Languages: English (Native), Spanish (basic)

Citizenship: Dual USA & Canada