

ALEXANDER ZENG

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Permanent Address: 46 Greenwood Rd., Andover, MA 01810

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EDUCATION

Northeastern University, Boston, MA

Expected May 2024

Candidate for Bachelor of Science in Mechanical Engineering

GPA: 3.96

Awards: Dean's Scholarship, Dean's List

Relevant Courses: Dynamics, Mechanics of Materials, Thermodynamics, Statics, Material Science, Differential Equations

Activities: SEDS NUROVER (Mobility Co-Team Lead), American Society of Mechanical Engineers, Pep Band, Concert Band

Andover High School, Andover, MA

May 2019

Awards: High Honors, National Honors Society, AB Calculus, Chemistry, Physics 1

GPA: 4.60

Activities: Robotics Club (Chief Mechanical Officer), Marching Band (Front Ensemble Section Leader), SeaPerch Club

TECHNICAL SKILLS

Applications: Fusion 360, SolidWorks, MATLAB, AutoCAD, Microsoft Office Suite, G Suite, PrusaSlicer

Other: FEA, FDM and SLA 3D printing, Programming (Python, C), CNC machining (basic), Power & Hand Tools

ENGINEERING PROJECTS

Marble Machine X CAD Team

Pre-Assembly Team Leader (June 2020 - Present)

- Collaborate weekly with 140+ volunteers online to declutter and improve a CAD assembly with 6,000+ parts for Martin Molin (musician), resulting in a master assembly that takes over two times faster to load
- Minimize lag when navigating assemblies by defeaturing overly complex parts
- Optimize quality control processes through meetings with other team leaders and coordinators
- Compile team parts into one assembly while inspecting for interferences and proper fit

NUROVER Mars Rover

Mobility Engineer / Mobility Co-Lead (September 2019 – Present)

- Collaborate with a team of 33 students to create a Mars Rover for the University Rover Challenge (URC)
- Design mobility system parts using SolidWorks with DFM in mind, then analyzed stresses using SolidWorks FEA
- Manufacture rover parts in the MIE machine shop using a plasma cutter, CNC mills, and power tools

Plastic Tuba – High School Senior CAPStone

(September 2018 – May 2019)

- Constructed a plastic tuba using PVC pipes and 3D printing to explore using additive manufacturing in instruments
- Analyzed 50+ sources to write a 47-page research paper and present a 10 minute "TED Talk" to teachers and students

WORK EXPERIENCE

Northeastern IT Services

Customer Experience Technician (October 2019 - Present)

- Troubleshoot technology problems for Northeastern students and staff through calls and in person
- Manage and controlled university-wide IT issues with thorough ticketing of customer interactions
- Monitor and maintain 15 paper printers scattered around campus

Andover High School IDEASudio

Intern (Summer 2019)

- Drafted an organization plan with the district's Director of Strategic Innovation to accommodate three workbenches, five machines, and various tools in a new makerspace and engineering room
- Improved an AR sandbox by designing a stronger frame and upgrading outdated software, enabling smooth operation
- Developed three posters using Canva that showcased achievements of the engineering program

BACKGROUND AND INTERESTS

- Enthusiastic about mixing music and engineering; built a tuba using PVC pipes and 3D printing as a high school CAPStone project and saved thousands of dollars by building a practice marimba and refurbishing a broken tuba
- Enjoy tinkering with electronics and tools, building computers, discussing tech, and gaming