MATEO ZITELLA

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EDUCATION

Northeastern University College of Engineering | Boston, MA — May 2027
Candidate for Bachelor of Science in Mechanical Engineering — **GPA: 3.61** (Dean's List)

- *Relevant Courses*: Fluid Mechanics, Dynamics, Intro to Material Science, Mechanics of Materials, Thermodynamics, Networked XR Systems, Statics, Differential Equations & Linear Algebra, Physics, Calculus 3

SKILLS

Software: SolidWorks, Onshape, Fusion360 CAM, Adobe Illustrator, Openrocket, Microsoft Office, Google Suite
Fabrication: Arduino, Soldering, 3D Printing, Laser cutting, CNC mill, Woodworking
Languages: Spanish, C++, Python, CSS, HTML, JavaScript, MATLAB
Interests: Art, Weight Lifting, Piano, Robotics, Anime

PROJECTS

Combat Robotics Club
3 Pound Combat Robot — January 2025 - Present

- Research compatibility of electronics including a weapon motor, weapon ESC, drive ESC, and LiPo battery
- Design the weapon and use theoretical mass distribution, target RPM and motor specs to choose a belt system

1 Pound Combat Robot — September 2024 - Present

- Researched successful combat robot designs and generated different ideas for the robot's weapon system
- Design iterations of the robot in SolidWorks to optimize performance while meeting the weight requirement
- 3D print and assemble the robot's frame and electronics, solder a drive ESC, a weapon ESC, two drive motors, a weapon motor, and a switch

Forge Product Development Lab
Smart Step — September - December 2024

- Developed a telescopic actuator mechanism for a height-changing smart cane, designed the body tube linkage system, and assisted with the electronics, circuit design, and C++ programming
- Collaborated with others to select cost efficient hardware and part spec motors with adequate voltage
- Created an Onshape assembly and edited team member's designs to ensure interaction into the overall design

NASA Student Launch Challenge
Subscale Rocket — September - November 2024

- Collaborated with a team of 7 to design fin mounts for a 4.85′ subscale rocket in SolidWorks and Onshape
- Designed and simulated a subscale rocket model using OpenRocket to analyze flight performance and stability

Personal
My Portfolio — January 2025- Present

- Designed a website using HTML, CSS, and JavaScript to highlight my engineering skill set and personality

EXPERIENCE

Northeastern SiliconSynapse Lab | Boston, MA — October 2024 - Present
Research Assistant for Aerobat Project

- Research relevant literature on mechanical damping systems for flapping-wing robots and re-design an IMU mount for AeroBat flapping-wing robot in SolidWorks to reduce mechanical vibrations and minimize weight
- Plan toolpaths in Fusion360 to CNC machine lightweight aluminum gears for Aerobat
- Assemble and solder electrical components to minimize the weight of wires

Northeastern DeLTA Lab | Burlington, MA — October 2024 - Present
Research Assistant

- Design and prototype equipment for experiments involving X-ray optical testing of different material properties
- Reference technical drawings to design adjustable mounts for lab equipment that interface with the lab's optical table and optomechanical components

Northeastern Electric Racing | Boston, MA — January - March 2024
Steering and Suspension Subteam Member

- Prepared stock for CNC machining and welding for the car's chassis
- Researched placements of different components and the effects on handling suspension