# 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: 3.66** (Dean's List)

- *Relevant Courses*: Fluid Mechanics, Dynamics, Intro to Material Science, Mechanics of Materials, Thermodynamics, Statics, Differential Equations & Linear Algebra, Physics 1-2, Calculus 1-3

## SKILLS

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

## PROJECTS

**Personal**
*My Portfolio* — January 2025 - Present

- Design and update a website using HTML, CSS, and JavaScript to highlight my skill set and personality

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

- Research compatibility of electronics including a weapon motor, weapon ESC, drive ESC, and LiPo battery
- Design the body and weapon, taking mechanical hardware, materials, and weight optimization into account

*GALINT - 1 Pound Combat Robot* — September 2024 - March 2025

- Researched successful combat robot designs and generated different ideas for the robot's weapon system
- Designed iterations of the robot in SolidWorks to optimize performance while meeting the weight requirement
- 3D printed, soldered, and assembled the robot's frame and electronics

**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 integration into the overall design

**NASA Student Launch Challenge**
*Subscale Rocket* — September - November 2024

- Collaborated with a team of 7 people 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

## EXPERIENCE

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

- Design and prototype a print-in-place design for Aerobat, a flapping wing robot
- 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 fixtures 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 and suspension