ASHER H. LEAVITT asher.leavitt.24@gmail.com
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EDUCATION

Northeastern University, Boston, MA Sep. 2022 – May 2028
Candidate for Bachelor of Science in Mechanical Engineering, Minors in Robotics and Mathematics
GPA: 3.91/4.0
Relevant Coursework: Robot Dynamics and Control, Thermodynamics, Dynamics, Mechanics of Materials, Intro to Material Science, Statics, Linear Algebra and Differential Equations

TECHNICAL SKILLS

Applications: Onshape, Fusion, SolidWorks, AutoCAD, Excel
Technical Skills: CAD design, FDM 3D printing, electrical wiring
Programming Languages: MATLAB, Python, Arduino, JavaScript, HTML/CSS, C++

WORK EXPERIENCE

Carnegie Mellon University – Biorobotics Lab June 2025 – July 2025
- Applied CAD skills in Autodesk Fusion to redesign CMU's Eigenbot modular robot chassis, focusing on Form-factor optimization and ease of assembly
- Integrated mechanical, electrical, and software design considerations to enable new battery, power, and camera upgrades, with potential for future object-grasping capabilities
- Achieved a 43% reduction in chassis footprint (from 55,000 mm^2 to 31,415 mm^2) by reshaping the body and optimizing internal space for electrical components

Code Ninjas – Code Sensei Sep. 2021 – May 2024
- Introduced coding skills to K–12 students through interactive lessons in JavaScript, C++, and Python, fostering curiosity and problem-solving

PROJECTS

Trading Card Sorter April 2025 – Present
- Prototyped an automated machine in Onshape to scan and sort trading cards, establishing the foundation for a functional, low-cost card sorting system
- Emphasized modular design principles and leveraged 3D-printed belts, pulleys, and gears to achieve a low-cost, adaptable build

Melty Brain Combat Robot – Northeastern Combat Robotics Jan. 2025 – Mar. 2025
- Designed, manufactured, and competed with a combat robot using an unconventional melty brain movement
- Troubleshooted advanced control allowing translation and rotation through high-RPM spinning and precise motor pulsing

3D Printing Projects Dec 2024
- Built a functional Voron 0.2 printer from scratch (Dec. 2024)
- Upgraded Ender 3 V2 with Klipper firmware, dual Z-axis lead screws, and Sprite hotend (Sep. 2020 – Ongoing)
- Developed expertise in printer assembly, calibration, and firmware optimization techniques

Self-Playing Marimba – Engineering Summer Academy at Penn July 2023
- Designed and laser cut a compact assembly in Onshape to play automated marimba performance from MIDI
- Controlled 12 notes through 12 servos, all connected via ESP32 and programmed in Arduino

Warrior Robotics FRC Team #4169 – Team Captain Sep. 2020 – June 2024
- Led team of 40 students for 1 year, oversaw $10K annual budget, and managed mentoring program for six middle school teams
- Helped design in Onshape FRC 2024 robot and implement new swerve drive system for improved maneuverability, resulting in a district event finalist for the season

INTERESTS

3D Printing, Rock Climbing, Traveling, Hiking (Eagle Scout, former SPL), Theme Parks