Leia Hannes

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EDUCATION

Tufts University **Medford, MA**
Bachelor of Science, Mechanical Engineering *May 2026*
GPA: 3.99 | Dean's List, All Semesters
Relevant Courses: Engineering Design, Control Systems, Statics, Dynamics, Materials & Manufacturing, Thermodynamics, Heat Transfer, Fluid Mechanics, Electronics, Intro Computer Science (C++, Python)

PROFESSIONAL EXPERIENCE

Tufts Center for Engineering Education and Outreach **Medford, MA**
Rogers Lab Technology Development Intern *September 2023 - present*
- Developed ROS code for UR3e robotic arm to achieve fine movements used in impact testing
- Conducted impact testing using UR3e robotic arm to determine frequency and modal response of violins
- Designed and fabricated prototypes for educational playground equipment to encourage computational thinking in kids ages 4 to 11

Tufts University **Medford, MA**
Learning Assistant for Electronics and Controls *September 2025 - present*
- Provided support for students in a 30 person class on circuit design and electromechanical systems
- Led weekly laboratory sessions with up to 10 students to reinforce course concepts

Tufts University **Medford, MA**
Teaching Assistant for Intro to Computing in Engineering *January 2024 - May 2024*
- Answered student questions in a 35 person class pertaining to data analysis techniques in python
- Mentored individuals and small groups during office hours for troubleshooting with code

PROJECT HIGHLIGHTS

Autonomous Pancake-Making Robot *(Spring 2025)*
- Designed and fabricated a linkage system to remove cooked pancakes from a griddle
- Iterated and tested the mechanism to achieve consistent and accurate pancake removal
- Created protocol for communication between subsystems designed by teams in a 30-person class

Line Follower Robot *(Spring 2025)*
- Built and programed a robot to select and follow colored lines using a camera and microcontrollers
- Implemented PID control system to accurately follow 4 different colored paths

Electric Screwdriver Product Teardown *(Spring 2024)*
- Disassembled an electric screwdriver and recreated all parts in SolidWorks
- Conducted task analysis and created function structure diagrams to study inner mechanisms and user interaction

Assistive Design *(Spring 2024)*
- Collaborated with a 4-person team to design a mechanism to move a back from the back to side of a wheelchair for increased accessibility
- Held consultation sessions with client to determine user needs and evaluate design requirements

SKILLS

Technical Skills
Software: Proficiency in Onshape, SolidWorks, COMSOL, KiCad, Microsoft Office
Programming Languages: Proficiency in Python, MATLAB, html, CSS, C++
Fabrication: Hands-on experience with 3D printers, laser cutters, soldering, machine tools, sheet-metal working

INTERESTS

Tufts Robotics Club *Mechanical Engineering Chair* *September 2022 - present*
- Taught and prepared materials for introductory workshops in CAD, electronics, and fabrication to prepare students for intramural BattleBots competitions
- Designed and fabricated a duck-themed combat robot using Arduino

Tufts Symphony Orchestra *Violinist* *September 2023 - present*
- Played Beethoven, Mozart, Mendelssohn, and more in a 70 person orchestra in concerts