

Evan Ticknor

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Experience

Vanderbilt Aerospace Design Lab / Undergraduate Researcher

May 2025 - Present, Nashville TN

- Worked with the rocketry team and developed an Apogee Control System for the NASA USLI competition
- Developed autonomous control systems using Raspberry Pi's with integrated electronics, utilizing data feedback loops from dynamic events through Linux and Python to control the actuation of air brakes in real time
- Conducted field tests with the Aurelia drone and rocket, setting up the recovery system and payload integration
- Manufactured rocket using 3-axis CNC mill, manual lathe/mill, 3D printers, and off-the-shelf components

Goldfarb Lab / Undergraduate Researcher

August 2024 - May 2025

- Worked directly with a PhD student developing an affordable prosthetic knee with an integrated microprocessor
- Reverse-engineered and CAD-modeled the pre-microprocessor version of the Mauch prosthetic knee
- Assisted experiments in the vanderbilt CREATE lab space, working with industry-standard prosthetic devices

Miniature Robotic Lab (Dong Lab) / Research Intern

May 2024 - August 2024, Nashville TN

- Collaborated with 4 other lab members to design and fabricate soft robots for medical uses (literature pending)
 - Medical Jellyfish Patch: Soft robotic patch designed to instill medication on demand in a patient's bladder
 - Magnetic Stretcher: Magnetically actuated piston system used to study the biomechanics of tissues
 - Designed, fabricated, and tested actuation devices that can be used indefinitely to control the robots
 - Received a stipend from and became a fellow of the Vanderbilt Institute of Surgery and Engineering
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Leadership

Vanderbilt Motorsports Club / Mechanical Engineer

August 2023 - Present, Nashville TN

- Completed in Formula SAE IC with a team of 10, achieving 3rd in efficiency and 27th overall out of 120 teams
- Designed and machined chassis components to reduce the weight of the car to 356 lbs (2nd lightest at comp)
- Utilized Ansys to conduct FEA and CFD simulations to analyze chassis stiffness and car aerodynamics

Vanderbilt Design Studio / Vice President of Equipment

April 2024 - Present, Nashville TN

- Maintained and used Ultimaker3D, Bambu, and Voron 3D printers to optimize and print students' designs
- Ordered and cataloged new equipment and supplies like electrical components, stock, and power tools
- Taught fabrication skills like soldering, cutting, CAD design, using multimeters, choosing off-the-shelf parts, etc

Vanderbilt University Department of Mechanical Engineering / TA

April 2024 - Present, Nashville TN

- Taught the Intro to Machining course, trained students in the basics of metalworking through making a hammer
 - Instructed students on how to approach fabrication and how to use foresight for choosing the order of steps
 - Demonstrated how to safely and efficiently utilize machining equipment: mill, lathe, band saw, drill press, etc
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Education

Vanderbilt University / Bachelor's Mechanical Engineering

August 2023 - Present, Nashville TN

3.96 unweighted GPA

- **Major:** Mechanical Engineering | **Minor:** Digital Fabrication
 - **Courses:** Rapid Prototyping, Dynamics, Material Science, Circuits, Multivariable Calculus, Differential Equations
 - **Extracurriculars:** Rocketry, American Society of Mechanical Engineers, Climbing Team, Volleyball
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Skills and Interests

Computer: SOLIDWORKS || Autodesk Fusion 360 || Python || Ansys (FEA and CFD) || DFMA || GD&T || G Code ||

LabVIEW || MatLab || CAM || Google Office || Microsoft Office Suite || Windows 10 || Linux

Hands-on working: Machining Skills || Soldering || Raspberry Pi || CNC || Woodworking || Arduino || Laser cutting || 3D Printing || Prototyping || Mechatronics || Basic Welding || Basic Mechanic Skills

Teamwork: Vocal and Communicative || Leadership || Problem Solving || Creative || Organized || Passionate Learner