

Evan Swanson

Portfolio: [evan-swanson.com](https://www.evan-swanson.com)
[linkedin.com/in/evan-p-swanson/](https://www.linkedin.com/in/evan-p-swanson/)

EDUCATION

Northeastern University | Boston, Massachusetts May 2028
Candidate for B.S. in Mechanical Engineering and Computer Science, Minor in Mathematics **GPA: 3.94**
Relevant Courses: Fluid Mechanics, Thermodynamics, Dynamics, Mechanics of Materials, Statics, Material Science, Object-Oriented Design, Fundamentals of Computer Science I-II, Discrete Structures, Cornerstone of Engineering I-II
Activities: Kappa Theta Pi (PC President), AerospaceNU (Mentor), Wind Ensemble (Events Coordinator), ASME
Certifications/Awards: Certified SolidWorks Associate (CSWA), Dean's List (Fall 2023 – Present)

SKILLS

Software: SolidWorks, EasyEDA, Linux, MATLAB, JMP, Office 365, Jira, Inventor, RStudio, HSMWorks, AutoCAD,
Manufacturing: DFM, 3D Printing, CNC Milling, Manual Machining, Laser Cutting, Soldering, Rapid Prototyping
Programming: Arduino, Raspberry Pi/Python, Streamlit, Java, C++, Git, JavaScript, PHP, HTML/CSS/Bootstrap, SQL

EXPERIENCE

Mechanical Engineering Co-op, Primaira LLC | Woburn, Massachusetts June 2026 – Present

- Enabled an increase in cadence of testing by writing automation software that reduced data analysis time by 85%
- Developing test-validated thermal models that inform algorithms to safeguard food safety in cold-chain logistics
- Verifying the durability of company products by designing a fatigue test rig to run components through 100k+ cycles
- Validating material selection decisions by designing and conducting experiments that simulate typical use conditions

R&D Mechanical Engineering Co-op, E Ink Corporation | Billerica, Massachusetts July 2025 – Dec 2025

- Prototyped 6 machine vision systems that supported the development of ePaper displays, rapidly iterating versions by designing 200+ 3D-printed parts in SolidWorks and fabricating T-slotted aluminum framing in a machine shop
- Conducted high-precision experiments on ePaper modules and wrote analysis software in Python to compute hundreds of thousands of datapoints and display results with a user-friendly GUI, influencing final design decisions
- Designed and built 5 electronic test fixtures in SolidWorks that were sent for use in manufacturing facilities overseas
- Documented assembly and developed bills of material for 2 instruments, enabling overseas teams to reproduce them

Mentor, Introduction to Propulsion | AerospaceNU, Northeastern University May 2024 – Apr 2025

- Lead the upgrade and testing of a liquid rocket engine, implementing design changes addressing initial test failures
- Mentored ~15 students new to AeroNU in general engineering practices, 3D modeling, and CNC machining

Events Coordinator | Wind Ensemble, Northeastern University Sept 2024 – Apr 2025

- Managed logistics of space reservation, catering, and social programming of events attended by up to 200 people
- Ensured consistency and maintained a budget by creating a yearly plan and coordinating with other council members

PROJECTS

Robotic Star Tracking Camera Gimbal | Independent Project Apr 2026 - Jun 2026

- Captured sharp, multi-hour-exposure images of stars by designing a 2-axis, Raspberry Pi-controlled camera gimbal
- Achieved 2.25 arcsec pointing precision via 2 custom 180:1 worm-gear drivetrains tailored to each axis's load profile
- Cut cost to about half that of comparable commercial star tracking mounts by using off-the-shelf and 3D-printed parts

E Ink Coffee Chronometer Enclosure | E Ink Co-op Project Sept 2025 - Dec 2025

- Reduced the part count and improved aesthetics of an ePaper display by designing a 2-part, 3D-printed enclosure
- Streamlined assembly process by designing a PCB to route connections from an ESP32 to peripheral components

Regeneratively-Cooled Liquid Rocket Engine | AerospaceNU Team Project Sept 2023 – Mar 2025

- Modeled a regeneratively-cooled rocket nozzle in SolidWorks using design parameters from NASA's Chemical Equilibrium with Applications (CEA) calculator and fluid simulations to maximize thrust and fuel efficiency
- Designed the nozzle with manufacturability in mind in order to save time, save money, and ease post-processing
- Post-processed the binder jet 3D printed nozzle using CAM software and a CNC mill, adding ports for fuel lines and creating a smooth surface that helped create an effective seal against high pressure liquids and gases