Ethan Hawes

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EDUCATION

Northwestern University | McCormick School of Engineering Evanston, IL
B.S. in Biomedical Engineering, Minor in Artificial Intelligence Sep 2023 - Present
GPA: 3.29/4.00 | Major GPA: 3.481/4.00
Relevant coursework: Biomedical Signals and Circuits, Measuring Instrumentation, Machine Learning, Biomedical Imaging, Biostatistics, Data Structures and Algorithms

RESEARCH AND DESIGN EXPERIENCE

Systems Engineering Intern | BD APM June 2026 - September 2026
- **Systems Requirements & Documentation:** Wrote and revised design requirements and engineering documentation for Advanced Patient Monitoring.
- **Feasibility Experiments:** Conducted early-stage design feasibility testing and summarized findings in technical reports.
- **Verification & Validation:** Performed device testing and wrote and edited test protocols.

Research and Design Engineer | Cast21 Feb 2026 - Apr 2026
- **Verification & Validation Testing:** Conducted structured testing of orthopedic medical devices to ensure performance met design specifications.
- **Test Protocol Development:** Executed and refined standardized test protocols to evaluate device durability, functionality, and reliability.
- **Data Analysis & Reporting (Python):** Analyzed test data using Python and documented results to support engineering decisions, design iterations, and product improvements.
- **Cross-Functional Collaboration:** Collaborated with cross-functional teams to iterate on designs and improve device performance.

Research Associate | Rogers Research Group Sep 2024 - Apr 2025
Northwestern University | Fluid Flow Rate Sensor Project
- **Device Fabrication & Assembly:** Fabricated and assembled wearable fluid flow rate sensors in a cleanroom environment, ensuring precise construction and adherence to design specifications.
- **Process Quality & Verification:** Inspected devices during and after fabrication to verify structural integrity, consistency, and proper functionality prior to downstream testing.
- **Laboratory Instrumentation & Documentation:** Operated cleanroom instrumentation (e-beam evaporator, plasma cleaner, MLA 150) and documented fabrication procedures to support reproducibility and process reliability.

SKILLS

Programming & data analysis: Python, MATLAB, Excel, statistical analysis, data visualization
Systems engineering & experimentation: Design requirements, experimental design, early-stage feasibility testing, verification and validation, failure analysis, technical documentation
Design, instrumentation & fabrication: SolidWorks, Autodesk Fusion 360, prototyping, cleanroom fabrication, e-beam and thermal evaporation, plasma cleaning, MLA 150

ADDITIONAL EXPERIENCE

Bartender and Server | Polo Fields Country Club Jun 2023 - Aug 2025
Louisville, KY

Crew Member | Chipotle Mexican Grill Feb 2022 - Jun 2023
Louisville, KY

LEADERSHIP EXPERIENCE

President | Lambda Chi Alpha, Alpha Iota Chapter May 2024 - May 2025
- Led campus events, service projects, and fundraisers with student organizations and university administrators.

Social Chair | Northwestern University Club Rugby Team April 2024 - April 2025
- Organized team events and coordinated communication to support team cohesion.

ADDITIONAL

Selected honors: National Merit Finalist (2023); Brown Book Award (2023); Rugby All-American Nominee (2025)
Interests: wearable biosensors, surgical and interventional devices, diagnostic & sensing technologies, prosthetics, soccer, rugby, golf, skiing, University of Louisville Athletics, Northwestern University Athletics