Andrew Rosenthal

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Education

Northeastern University, Boston, MA Sep 2024 – May 2027

Bachelor of Science in Electrical and Computer Engineering, Minor in Sports, Media & Communication

GPA: 3.62 | **Awards:** Dean's List (4 of 5 semesters) | **Clubs:** Forge, Northeastern Robotics

Relevant Courses: Embedded Design, Electronics, Circuits & Signals, Networks, Analysis of Random Phenomena, Linear Systems, Electromagnetics, Senior Capstone

Lafayette College, Easton, PA Aug 2022 – May 2024

Electrical and Computer Engineering coursework (transferred to Northeastern)

Professional Experience

Hardware Engineering Co-op, Leuko, Cambridge, MA Jan 2026 – Jun 2026

- Owned schematic design, component selection, and layout of multi-layer PCBs in Altium and KiCad for a clinical medical device, from concept through fabrication, assembly, and bring-up with a contract manufacturer
- Debugged and characterized hardware on the bench with oscilloscopes, multimeters, and power supplies, using measured data to drive component and design-iteration decisions
- Supported design verification and safety compliance (IEC 60601-1): root-caused a dielectric safety failure, reviewed wire insulation compliance, and prepared critical-component tables for the CB report
- Designed a mixed-signal galvo QC test fixture (Raspberry Pi Pico, MCP4822 DAC, TL072 op-amp waveform generator) that automated characterization and data collection for manufacturing validation
- Designed an FPC-to-USB 3.0 camera adapter board with GPIO-controlled VBUS power switching, adding firmware-level control of sensor power
- Built, refurbished, and troubleshot clinical hardware units, collaborating with firmware and mechanical engineers to isolate and resolve electrical and manufacturing issues

Manufacturing Intern, Pickle Robot, Cambridge, MA Summers 2023, 2024

- Assembled and brought up autonomous truck-unloading robots through PCB soldering, firmware loading, and electrical system assembly, supporting new product introduction on the production floor
- Built quality-control test hardware to validate electrical reliability of robotic systems before deployment
- Maintained and retrofitted prototype robots to improve performance and extend lifecycle

Projects

Form Flex – Wearable PT Motion Tracking (Senior Capstone) Jul 2026 – Present

- Architecting a low-power wearable sensor system for physical therapy: an STM32F4 hub aggregates joint-angle data from ESP32-C3 limb nodes with BNO085 IMUs over SPI and BLE
- Leading schematic design, board bring-up, and sensor characterization on a 6-person team; streams live data to a mobile app and a clinician dashboard

Thrive Engine (Personal Project) Aug 2026 – Present

- Developed and deployed a full-stack health platform using Next.js, TypeScript, and Supabase, integrating WHOOP API data to inform training, nutrition, and recovery decisions

Northeastern Robotics – VECTOR Autonomous Drone (Club) Sep 2025 – Present

- Designing and fabricating PCBs for VECTOR, an autonomous drone for construction sites and other jobs, capable of swapping tool-head modules while operating

Forge – Portable Posture Backrest (Club) Jan 2025 – Apr 2025

- Built a wearable-adjacent sensing product with a team: designed the electrical system, integrated pressure sensors, and wrote microcontroller firmware to process and act on sensor data

Technical Skills

Circuit Design:	Schematic capture and PCB layout (Altium Designer, KiCad), analog and mixed-signal circuits, power electronics, PSpice
Lab & Test:	Oscilloscopes, multimeters, bench power supplies, SMD soldering and rework, board bring-up, debug, design verification, IEC 60601-1
Embedded:	C, C++, STM32, ESP32, Raspberry Pi Pico, Raspberry Pi, Arduino
Software & Analysis:	Python, MATLAB, R, TypeScript, Next.js, Supabase, Git
Digital & CAD:	SystemVerilog, Xilinx Vivado, SolidWorks, AutoCAD