

Nathaniel Rogers

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EDUCATION

Northwestern University, Evanston, IL

Anticipated Graduation: *March 2027*

Bachelor of Science in Biomedical Engineering | Segal Design Certificate

Overall GPA: 3.94/4.00

Relevant Courses: Biomedical Engineering Design, Interdisciplinary Product Design, Biomedical Signals & Circuits, Design Research, Advanced Solid Modeling, Robotics, Systems Physiology, Bioelectronics, Statistics, Biochemical Sensors

SKILLS

Hardware: 3D Printing, Tolerance Analysis, Rapid Prototyping, Circuit Design, Signal Analysis, Soldering, FMEA

Software: SolidWorks, OnShape, Python, MATLAB, Microsoft Office, LTSpice, Arduino IDE, HTML, CSS, G*Power

Communication: Project Management, Public Speaking, Presentation, Technical Communication, Time Management

WORK EXPERIENCE

Associate Clinical Experience Intern – Cardiac Ablation Solutions, Medtronic

June 2026 – Present

- Completed 300+ hours of electrophysiology and CAS product-specific training to gain technical foundations for associate cardiac mapping role.
- Shadowing weekly in-person EP operations in Chicago-area hospitals to improve understanding of clinical needs.
- Delivered in-service style presentation on septal pathway diagnosis & ablation to regional Medtronic CAS leaders.
- Demonstrated proficiency in transseptal access product preparation and use by passing an in-person practicum.

Biomedical Engineering Intern, Garrett Technologies, Inc.

June 2025 – August 2025

- Executed reliability testing on AED charging loops in an environmental chamber (50–60°C), diagnosing PWM instability under thermal stress and informing a firmware update improving performance at rated limit.
- Developed a Python-based tool to decode and visualize ECG, treatment, and AED system logs, generating automated summaries with error translations to reduce analysis time by 15 minutes per log for a team of 9 engineers.
- Collaborated with internal engineering teams and external battery vendors to define acceptance criteria for lithium cell performance under dynamic loads and elevated temperatures, improving supplier reliability.
- Tested 50+ PCB trace resistances to ensure quality standard conformance for FDA Class III medical device.

LEADERSHIP & PROJECTS

Northwestern University Medical Makers

(Student Organization)

Project Manager: EEG Wheelchair

September 2026 – Present

- Secured a new EEG hardware company sponsorship, providing technical support to 60+ student members.
- Led technical instructional workshops to develop student skills in CAD, breadboarding, and prototyping.

President

May 2025 – May 2026

- Raised \$7000+ in funding by submitting grant applications and departmental requests to support student experience.
- Partnered with a multinational medical device company to facilitate 6 project-specific design reviews.

DSGN 384: Interdisciplinary Product Design

(Coursework)

Primary Contributor: ENdose – Precision Liquid Medication Dosing System

September 2025 – March 2026

- Applied parametric OnShape CAD modeling and tolerance stack analysis to ensure manufacturability and compatibility across standard ASTM D2911 bottle finishes.
- Rendered 20+ views of the final product using SolidWorks Visualize to support client decision-making.
- Presented final design to a panel of 20+ representatives from industry and academia.
- Prepared documentation for submission to technology transfer office for client-sponsored patent protection.