NICHOLAS TRIGGER

Biomedical Engineer

+1 (361) 446-3005 | nicktrig124@gmail.com | linkedin.com/in/nick-trigger | nicholastrigger.com

SUMMARY

Biomedical Engineering alumnus from Duke University specializing in medical device R&D, with hands-on experience designing, prototyping, and validating hardware from PCB-level electronics to mechanical enclosures. Comfortable across embedded systems (C/C++, RTOS, ESP32) and benchtop testing under ISO/FDA-conscious development, with clinical research and leadership experience that bridges engineering and real-world clinical workflows.

EDUCATION

Duke University, Durham, NC **AUG 2022 – MAY 2026**
Batchelor's of Science in Biomedical Engineering
Relevant Coursework: Medical Device Design, Embedded Medical Devices, Imaging Systems

PROFESSIONAL EXPERIENCE

Research and Development Engineer **DEC 2025 – MAY 2026**
Reselute Medical (Durham, NC)
- Designed and validated innovative bacterial testing protocols to enhance product evaluation.
- Conducted comprehensive literature reviews to inform and refine experimental designs.
- Documented and analyzed experimental results, facilitating informed design decisions and technical reporting.

Classroom R&D Engineer **APR 2025 – MAY 2026**
Duke University Biomedical Engineering Dpt. (Durham, NC)
- Designed, fabricated, and assembled electronic laboratory hardware for deployment across BME teaching labs.
- Developed a stimulus-responsive EKG simulator generating physiologically accurate signals for lab use.
- Validated hardware performance under extended use conditions to ensure durability and safety.

Makerspace Assistant Manager **AUG 2023 – MAY 2024**
The Foundry at Duke University (Durham, NC)
- Supervised daily operations of the Foundry makerspace, enhancing student engagement with fabrication equipment.
- Trained users on the safe operation of 3D printers, laser cutters, CNC machines, and electronics tools.
- Coordinated maintenance schedules to ensure compliance with safety standards, fostering a safe secure environment.

Clinical Research Associate **JUN 2023 – AUG 2024**
Christus Spohn Health System (Corpus Christi, TX)
- Supported emergency medicine clinical studies by ensuring compliant data collection and thorough EMR review.
- Collected and documented patient consent in accordance with IRB and FDA guidelines.
- Collaborated effectively with physicians, residents, and research staff to facilitate ongoing clinical investigations.

Engineering Design Teaching Assistant **AUG 2023 – JUN 2024**
Duke University Biomedical Engineering Dpt. (Durham, NC)
- Mentored student teams through comprehensive engineering design and prototyping workflows, fostering innovation and collaboration.
- Supported hardware and CAD development for client-driven design projects, ensuring high-quality deliverables.
- Evaluated technical deliverables and conducted design reviews to maintain project standards.
- Oversaw the safe use of machine shop equipment, promoting a culture of safety and responsibility.

CERTIFICATIONS AND SKILLS

Certifications: CSSC: *Lean Six Sigma White Belt*, Nordic Semi: *nRF Connect SDK Fundamentals*, *Matter Fundamentals*

Technical Skills: BioSignal Processing, X-ray, MRI, CT, PET, Medical Device Prototyping, Biomechanics, ISO Standards, FDA Regulations, EMG, Medical Image Processing, Medical Firmware, GD&T, PCB Layout, PCB Design, Python, C, C++, Embedded C, FreeRTOS, Zephyr, JavaScript, TypeScript, HTML/CSS, SQL, SPI, I2C, UART, CAN, BLE, USB, V&V, Bench Testing, System Validation, Bacterial Testing, Phantoms, Data Collection & Analysis, PCB Triage, Prototyping

Tools: SolidWorks, Fusion 360, AutoCAD, OnShape, SolidWorks, KiCAD, EAGLE CAD, Git, GitHub, GitLab, 3D Printing, Laser Cutting, CNC Milling, Manual Machining, Waterjet Cutting, PCB Assembly, PCB Fabrication, Microsoft Office, LaTeX