# RYAN STONE

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## EDUCATION

**Northeastern University,** College of Engineering — Expected: May 2026
B.S. Biomedical Engineering — GPA: 3.8

## EXPERIENCE

**Clinical Engineering Intern,** *Boston Medical Center*, Boston, MA — May 2024 - Present
- Cut equipment downtime by 35 percent by updating preventive maintenance plans for over 200 devices.
- Calibrated and tested medical equipment to meet all safety and quality standards.
- Worked with nurses and engineers to solve urgent equipment issues, resolving 95 percent on the same day.
- Entered and organized maintenance data in the hospital's tracking system, improving accuracy by 40 percent.
- Performed component-level repairs and software updates on Alaris infusion pumps and Welch Allyn monitors.

**Research Assistant,** *Tissue Engineering Lab, Northeastern University*, Boston, MA — Jan 2024 - Present
- Designed and 3D-printed scaffolds for cartilage research, adjusting material settings to improve cell growth.
- Ran basic cell tests to measure cell health and survival.
- Analyzed microscope images using ImageJ and MATLAB and presented results at a student research event.
- Performed routine cell culture work, including media prep and cell transfers, in a sterile environment.
- Developed and optimized 3D-printing parameters for biocompatible polymers.

## PROJECTS & VOLUNTEERING

**STEM Outreach Volunteer,** Boston Science Museum — May 2023 - May 2024
- Mentored middle school students in hands-on activities including building prosthetic hand prototypes and extracting DNA from strawberries.
- Gave an introductory talk explaining how medical devices are designed and used.

**Biomechanical Gait Analysis Tool,** Biomechanics Course Project — Jan 2024 - Apr 2024
- Built a Python tool that measures joint angles from video using OpenCV and MediaPipe.
- Collected and analyzed walking data from ten volunteers to study stride length and joint motion.
- Generated automatic reports comparing each person's gait to normal movement patterns.
- Implemented digital Butterworth filters to smooth motion capture data, effectively removing high-frequency noise caused by shaky video input or poor lighting.

**Portable ECG Monitor,** IEEE Medical Devices Workshop — Sep 2023 - Dec 2023
- Built a small, three-lead ECG device using Arduino and a heart-rate sensor.
- Designed a simple filter to reduce noise and improve signal quality.
- Wrote a program to detect heartbeats and compare readings to a commercial device.

## SKILLS

- **Design:** SolidWorks, AutoCAD, Fusion 360, 3D Printing
- **Analysis:** MATLAB, Python, ImageJ, LabVIEW, Statistical Analysis