

Nathan Ramirez

East Hartford, CT | ramirez.nathan1014@gmail.com | (860)-597-8919

Education

Boston University

Boston, MA

Bachelor of Science in Biomedical Engineering & Concentration in Robotics

September 2023-May 2027

Relevant course work: Differential equations, Engineering Robotics, Chemistry II, Anatomy & Physiology, Engineering Design, Physics II

Northeast Medical Institute

East Hartford, CT

Phlebotomist certification

June 2025- July 2025

Experience

Gems Home Improvement

Hartford, CT

Contractor and Contract Negotiations

May 2022 - February 2025

- Served as a translator in Spanish and Portuguese, enabling over 50 successful negotiations between property managers and contactors
- Worked onsite in lumber, welding, and general construction, contributing to complete a major project one year ahead of schedule
- Produced and implemented electrical box layouts and wiring plans for three commercial buildings, ensuring compliance with safety codes

CVS Retail Associate

South Windsor, CT

Front Store Clerk

March 2023 - January 2024

- Managed inventory restocking across more than 20 product categories, maintaining full shelves and reducing stockouts by 13%
- Processed and fulfilled over 300 online orders, ensuring 100% accuracy and timely customer pickup
- Reorganized store layouts during opening/closing to improve customer flow and performed daily perishable audits across all departments
- Assisted 50+ customers per shift in product selection, providing bilingual support and personalized recommendations

Projects

Surgical Gantry Robot

- Designed and fabricated a precision gantry robot in Onshape with pulley-driven stepper motors and lead screw systems for controlled multi-axis movement, featuring an interchangeable head system supporting 3 specialized toolheads (incision, tissue spreading, soft robotic gripper) integrated with sensors
- Implemented computer vision-based workspace recognition and configured control system for semi-autonomous operation, adapting to variable materials and conditions with validated stress-tested components

Remote Controlled 'Battlebot'

- Designed competition-ready combat robot in Onshape with SolidWorks-validated materials, featuring spring-loaded launcher mechanism and 6-meter operational radius for spectator safety
- Programmed ESP32 microcontroller for wireless communication with custom controller and performed on-site repairs during tournament, competing against multiple teams in competitive events

Eye Tracking Software

- Built visualization features including live overlays and edge-detection sessions for debugging, achieving 80% accuracy in pupil localization across multiple video samples and lighting conditions

Full Portfolio available upon request

Skills

Coding Languages: C++, Python, Java

Software Skills: MATLAB, Canva, Microsoft Teams, Onshape, Solidworks, Cad Drawing, Arduino IDE, ORCA slicer, BambuLab, KICAD

Technical skills: Soldering, Welding, Microcontroller programing, 3D printing, Laboratory Equipment Training

Language Skills: English(Fluent), Spanish(Fluent), Portuguese(Proficient), Italian (Proficient)