Shawn Marine

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EDUCATION

Northeastern University **Boston, MA**

Candidate for BS in Mechanical Engineering | Minors in Physics + Math + Aerospace *May 2025*

- Honors: Torch Scholar (Full Scholarship, first-generation low-income student), Dean's list every semester **GPA:** 3.85
- Relevant Coursework: Heat Transfer, Robot Dynamics & Control, Mechanics of Materials, Electrical Eng, Thermodynamics, Measurement & Analysis, Modern Physics, Differential Eq./Linear Algebra, Material Science, Dynamics
- Activities: Northeastern Electric Racing, NU Mars Rover, American Society of Mechanical Engineers

Maine School of Science and Mathematics **Limestone, ME**

- Relevant Coursework: Object Oriented Programming (C++), 3D Rendering & Animation, Astronomy *May 2021*
- Activities: VEX Robotics Captain, Astronomy Club, Student Senate, Cubing Club PR, Residential Assistant **GPA:** 93

SKILLS

Machining/Electrical: 3D Printing, Laser Cutting, CNC Mill, Machining, Shop Tools, Soldering/Wiring, Circuit Analysis
Software: 3D CAD, SolidWorks (CSWA certified), Ansys, Fusion, AutoCAD, Blender
Programming: C++, Arduino IDE, MATLAB, SQL, Maple, Notion, Microsoft Office, Adobe Creative Suite
Technical: GD&T, DFM, DFA, FEA, FAI, Root Cause Analysis, Statistical Analysis

PROJECTS

Thermoelectric Generator | *Personal Project* *Jan. 2023*

- Utilized the properties of thermoelectric modules to create an electricity generator which can be used in emergencies
- Engineered generator design for peak electricity production and integrated USB ports for device charging

Robotic Pterodactyl | *Lead Engineer for Class Project (Mech. Eng. Computation and Problem Solving).* *Jan. → May 2022*

- Fabricated a low cost, highly customizable robotic dinosaur by employing my rapid prototyping and electrical skills
- Innovated a user interface that integrated MATLAB with Arduino IDE, resulting in easy-to-use controls for the 6 DOF

Portable Bluetooth Speaker | *Personal Project* *Sept. → Dec. 2022*

- Designed a circuit to optimize sound quality, using isolating converters to eliminate ground loop interference
- Utilized CNC milling, 3D printing, soldering, wiring, and material properties to optimize durability, quality, and cost

PROFESSIONAL EXPERIENCE

Emphysys **Woburn, MA**

- Completed 8+ projects, designing complex assemblies, circuits, machining parts, drawings *July 2023 → Dec. 2023*
- Saved the company over $5,000 by implementing FDM printing in the prototyping lab, bypassing protolabs
- Performed thermal analysis to understand electronics cooling and building insulation
- Documented all project progress extensively and designed task management system in Notion
- Updated Material Safety Data Sheet (MSDS) catalog for the company, tracking every substance in the building
- Conducted multiple ex-vivo tests on biological tissue to measure efficacy of medical instruments
- Interviewed 5+ co-op applicants for the cycle ahead of me and provided feedback to the team

Khoury College of Computer Science | *Computer Science Lab Administrator* **Boston, MA**

- Managed a team of 14 proctors who facilitated the Khoury computer lab *Jan. 2022 → May 2023*
- Assisted 200+ students and faculty with their technological needs, fixing printers, projectors, monitors etc.
- Optimized the lab to be a flexible learning environment capable of supporting code events & keynote guest speakers

NASA | *Research Assistant – Intern* **Mountain View, CA**

- Conducted research with Dr. Chris McKay on galactic habitable zones in elliptical galaxies *June → Sept. 2021*
- Coded in SQL to acquire data from public databases
- Analyzed peer reviewed journals, researching how radiation varies within a galaxy and how that affects microorganisms
- Calculated the "goldilocks zone" for different galaxy types based on distance from galactic center

VOLUNTEER EXPERIENCE & INTERESTS

General Studies Peer Mentor *Sept. 2022 → June 2023*

- Navigated 30+ students through scheduling, finding great professors, creating success plans, identifying goals and strategies
- Hosted workshops for Notion, resume building, degree planning, Microsoft Excel training, networking & LinkedIn

YMCA Youth Basketball Program *Nov. → Feb. 2017-2019*

- Managed the after-school youth basketball program as well as the clock and scorebook for games

Interests: Reading (philosophy, neuroscience, science fiction, self-improvement), Astronomy (proud owner of a 12-inch Dobsonian reflector telescope), basketball, running, weightlifting, writing, personal finance & investing, 3D printing, cubing