

Michael Bane

Newton, MA | bane.m@northeastern.edu | 617-659-6792

www.linkedin.com/in/michael-bane-67a751293 | Portfolio: <http://mishabane.com/>

Education:

Northeastern University, Boston, MA

May 2027

Candidate for Bachelor of Science in Mechanical Eng; Minors in Electrical Engineering and Mathematics

GPA: 3.695

Honors: Dean's List, National Honors Society Member

Activities: American Society of Mechanical Engineers (ASME), FYELIC Red Vest, Knack Tutor

Courses: ME Computation and Design, Fundamentals of Electronics, Measurement and Analysis, Electrical Engineering, Thermodynamics, Fluid Dynamics, Mechanics of Materials, Dynamics, Statics, Differential Equations, Physics I-II

Skills:

Computer: SolidWorks, AutoCAD, Fusion 360, Revit, Hydra CAD/LIST, C++ (basic), MATLAB (basic), Python (basic), Arduino (basic), Excel, PowerPoint, Adobe Illustrator

Machining: Laser Cutting, 3D Printing, Woodshop Tools (band saw, drill press, belt sander)

Work Experience:

J.C. Cannistraro, Junior Fire Protection Design Co-op, Waltham, MA

Aug 2025 – Dec 2025

- Learned about the design of fire protection systems based on national and state safety codes, including NFPA 14
- Produced industry-standard field drawings, head cut-back drawings, record drawings, and material stock lists using Revit and Hydra CAD/LIST to ensure accurate and efficient pipe fabrication and installation for high profile projects including the MXD Residential Tower, Simmons University Park Science, and Harvard ERC
- Collaborated with a senior level engineer to conduct a field survey to determine the location of an existing fire protection system and accurately construct a dimensioned layout in Revit

MIT Computer Science & Artificial Intelligence Laboratory, Research Assistant, Cambridge, MA

July 2024 – Dec 2024

- Designed the front payload structure of an autonomous underwater vehicle to incorporate a sonar module and altimeter using Fusion to learn how to use this design software
- Utilized design specifications and constraints including aerodynamics, possible impact forces from collisions, 3D printing limitations, and compatibility with the rest of the vehicle

NEU First Year Engineering, Learning, and Engineering Center, Red Vest, Boston, MA

Jan 2024 – Present

- Utilize proficiency in Arduino, C++, Python, MATLAB, AutoCAD, and SolidWorks to guide first-year engineering students in their Cornerstone of Engineering classes
- Operate machinery including FDM 3D printers, laser cutters, and wood shop tools for students' projects
- Supervise the use of hand and power tools to ensure the safety of all makerspace users

Knack Tutoring, Tutor, Boston, MA

Jan 2024 – Present

- Tutor Northeastern students in person and virtually in subjects such as Differential Equations, Cornerstone of Engineering, Physics I-II, and Probability and Statistics
- Presented at the Second Annual Knack Conference to a national audience about common challenges that tutors face

Projects:

Home Renovations

2018– Present

- Installed roofs, windows, cabinets, fences, floors, tiles, a patio, a cement driveway, and a greenhouse using equipment such as nail guns, table saws, jigsaws, tile saws, laser levels, and other hand tools and specialized tools
- Remodeled bathrooms, closets, kitchens, and bedrooms

Autonomous Sumo Robot (Full Cornerstone Project)

Fall 2023

- Collaborated with a team member to design an autonomous sumo robot to compete in an end-of-semester Battle Bot-like competition
- Designed the robot's body using SolidWorks and integrated distance and IR sensors, motors, and Arduino devices
- Succeeded in reaching the semifinals and learned from implementing the engineering design process

Volunteer and Leadership Experience:

Frank Hartigan Irish Music and Dancing Fundraiser

Annually since 2023

- Raise over \$2,500 annually to support new traditional Irish musicians
- Construct creative and eye-catching flyers using PowerPoint and Adobe Illustrator

Sustainable Farming

2016 – Present

- Utilize sustainable farming techniques and experience a farmer's battle with nature and business markets

Roxbury Robotics

Fall 2023

- Mentored elementary school students in completing a Lego autonomous robot to compete in a sumo bot challenge

Interests:

Competitive Traditional Irish Button Accordion (2009 – Present), Men's Single Sculling (2020 – Present)