

# Mica Wen (She/Her)

<https://www.linkedin.com/in/mica-wen/>

Mechanical Engineering student at Northeastern University, Boston, MA  
Minor in Mathematics

## SUMMARY

A self-driven Mechanical Engineering student with a passion for robotic and mechatronic system design and configuration. Highly motivated and a quick learner, with strong hands-on skills, good time management, and effective team communication abilities.

## EDUCATION

Aug 2024 - June 2028

Aug 2019 - June 2024

Aug 2012 - June 2019

**BS Mechanical Engineering**, Northeastern University, MA

**8-12th grade** The King's Academy, Sunnyvale CA

**K-7th grade** Fremont Unified School District, CA

## MAJOR COURSES

2025-2026

**Northeastern University**, Boston, MA

Statics, Dynamics, Material Science, Mechanics of Materials, Thermodynamics, Fluid Mechanics, and Measurement & Analysis with Thermal Science Application.

## ONLINE COURSES

June 2025 - Now

May - August 2024

[The Construct.ai](#) - ROS, ROS 2, and Gazebo Simulator

[Udemy](#) - Certified Associate Python Programmer (PCAP)

## JOB AND TEAM EXPERIENCE

**Motor Cooling Student Engineer – Powertrain Subteam      Sept 2025 - Present**  
Northeastern Electric Racing

- Support powertrain thermal management by testing and validating liquid cooling systems for electric motors, including pumps, radiators, and coolant flow paths, while conducting water heating and cooling experiments under varying thermal loads.
- Analyze radiator heat dissipation efficiency by measuring cooling rates to assess thermal effectiveness, and apply thermodynamics and heat transfer principles to interpret test results and support design decisions.
- Assist in CAD design of a swirl pot, optimize it for coolant flow and air separation, and prepare the component for SLA 3D printing.
- Collaborate with the powertrain team to integrate cooling components within overall vehicle packaging constraints.

**Undergraduate Research Volunteer**

**Aug 2025 - Present**

**Project: Computer Vision Development**

**Led by Professor Rifat Sipahi at Northeastern University**

- Test a computer-vision-based drone localization pipeline using a Jetson Nano with stereo cameras to simulate aerial image capture over a sandbox.
- Evaluate image-based 3D terrain reconstruction (COLMAP) by comparing reconstructed scenes with stereo imagery captured to simulate a drone.
- Support camera calibration and accuracy benchmarking using the OptiTrack motion capture system as ground truth.

## CONTACTS

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## CERTIFICATIONS

Fusion 360 (Aug 2023)

Python PCAP (Aug 2024)

Code Foundation for ROS (Dec 2025)

## SKILLS

### Design and CAD

- Fusion 360, Solidworks

### Embedded system

- Arduino, Raspberry Pi

### Programming languages

- Python, C++, Matlab

### Fabrication & Prototyping

(2025-2026 Formal training @EXP Northeastern)

- CNC Machining
- Soldering
- SLA 3D Printing
- MIG and TIG Welding
- Laser & Waterjet Cutting
- PCB Milling
- Panel Saw Operation
- Woodworking

### Robotics Software

- ROS2, Gazebo

## TEAM & CLUB

Northeastern Electric Racing

FIRST® Robotics FTC #15385

Academy of Fencing Masters

- Epee fencer

**Red Vest Program Student Helper** Sept 2025 - Present  
**The First Year Engineering Learning & Innovation Center**, Northeastern University, MA

- Assist first-year students in Python, debugging, and problem-solving.
- Guide Makerspace projects, supporting design, prototyping, and tool use.
- Serve as a student mentor, promoting collaboration and knowledge-sharing.

**Summer Student Counselor** July - August 2022 & 2023

**Robotics Camps at The King's Academy, Sunnyvale CA**

- Built the Lego Mindstorm chassis for student design modifications and guided students aged 9-16 in the Engineering design process, programming, and mechanical skills, culminating in a mini competition.
- Promoted robotics, engineering, and STEM activities in the local community.

**VOLUNTEERING**

Jan - June 2023  
Project-based

**Walker Project** - Co-led the redesign of a walker, conducting requirements and feasibility analysis, and CAD prototype enhancements. Successfully completed the design, improving mobility and accessibility for the client.

Jan - Dec 2023  
Weekend

**Customer Services Associate**  
San Jose Tech Museum (The Tech Interactive)

**ACTIVITIES, AWARDS, AND COMPETITIONS**

August 2025 to Now

- [Northeastern Electric Racing](#)
- [American Society of Mechanical Engineers](#)
- [Society of Women Engineers](#)

Aug 2020 - May 2024

**FIRST® Robotics**

[The King's Academy Robotic Team](#) FTC #15385

Inspire Award - CenterStage 2024

Collins Aerospace Innovate Award - Ultimate Goal 2021