Elaina Mann

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EDUCATION

University of Michigan **Ann Arbor, MI**
Bachelor of Science in Engineering in Computer Engineering *May 2026*
Bachelor of Science in Engineering in Robotics *May 2026*
GPA: 3.53/4.00

TECHNICAL SKILLS

Programming C++, C, Python, Verilog, Julia, MATLAB
Platforms & Tools Altium, KiCad, STM, Arduino, Raspberry Pi, Lab Instrumentation, Linux, Git
Core Competencies Robotics, PCB Design, Embedded Systems, Software Design, Electrical Systems, Autonomy

WORK EXPERIENCE

Panasonic **Newark, NJ**
Automation Engineering Intern *Jan 2024 - Jan 2025*

- Designed an internal web application based on key stakeholder meetings to fully understand organizational requirements.
- Built application that successfully centralized document requests and allowed real-time chat communication between 200+ members of North America Panasonic departments.
- Automated SharePoint folder actions, improving audit workflow efficiency for the department.

University of Michigan Department of Performing Arts Technology **Ann Arbor, MI**
Mechatronics Team Research Assistant *Jan 2024 - Dec 2024*

- Designed C++ algorithms mapping musician movement to robot movement, resulting in intuitive robot response.
- Restructured robot electrical system to optimize power usage and prioritize safety.
- Modeled robot using taskspace and jointspace representations, creating a more streamlined mapping of musician movement to robot movement.

University of Michigan, ROB 201: Calculus for the Modern Engineer **Ann Arbor, MI**
Instructional Assistant *Jan 2024 - April 2025*

- Created a set of homework problems, projects, and study materials for this Julia-based calculus course.
- Tutored students in Calculus I, II, and III, working closely with students to ensure understanding.
- Edited the final course textbook, ensuring the material was accessible, clear, and comprehensive.

PROJECT EXPERIENCE

University of Michigan Robotic Submarine Team **Ann Arbor, MI**
Software/Electrical Team Member *Aug 2022 - Present*

- Lead research and implementation of the hardware, electrical, and Python-based software for a hydrophone localization system, leading to a top 5 placement at the international Robosub competition.
- Designed PCBs and CADed interior structures to improve electrical system organization and efficiency.
- Developed and wrote a Python-based navigation state machine for the autonomous submarine.

President *April 2024 - April 2025*

- Led 30+ member robotic submarine team, aligning electrical, mechanical, and admin subteams.
- Directed weekly meetings, creating agendas and presentations to track progress and resolve blockers.
- Secured $20k+ in sponsorships, managed budgeting, and coordinated travel logistics for 15 members.

Autonomous Fruit Skewering Robot **Ann Arbor, MI**
Autonomous Robotics Term Project *Jan 2026 – May 2026*

- Designed and 3D printed dual-arm robot components and 360° rotating base to support bimanual workspace coverage for food skewering tasks
- Implemented autonomous movement behaviors using vision-based imitation learning from leader-follower teleoperation data
- Integrated RGB-D camera perception pipeline to detect food items and skewer holder positions, feeding observations into a closed-loop visuo-motor control system