

Chloe Irgang

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Summary

Electrical and Computer Engineering Freshman at the University of Michigan. Hands-on experience in embedded systems, custom PCB design, and autonomous robotics. Experienced in firmware development, embedded systems, hardware debugging, and long-term independent electronics projects. Looking for roles in Electrical Engineering and Robotics.

Education

University of Michigan, Ann Arbor

Bachelor of Science in Electrical Engineering

Expected May 2029

GPA 3.43/4.0

Technical Skills

Programming:

C/C++, Arduino, Java, Python, JavaScript, HTML, MATLAB

Embedded/Hardware:

STM32/ESP32/RP2040 Microcontrollers, PCB Design (Altium Designer, KiCad), Serial Communication (SPI, I2C, USART)

Instrumentation:

Oscilloscope, Multimeter, Bench Power Supply, Waveform Generator, LCR Meter, Logic Analyzer

Fabrication:

SMT & Through-Hole Soldering, PCB Assembly and Testing, Breadboarding, 3D Printing

Software:

Altium, KiCad, VS Code, Git, Linux, LaTeX, Onshape, Excel, Word

Projects

Weather Balloon Sensor Payload

Jan 2026 - March 2026

- Integrated numerous sensors, including GPS, temperature, accelerometer, and SD logger
- Performed go-no-go tests, including cold-chamber, shock, and power validation tests
- Successfully collected atmospheric data at over 100,000 feet and performed data analysis

Autonomous Miniature Drone

Mar 2025 - Present

- Designed an autonomous miniature drone through multiple iterations to improve performance and efficiency
- Developed a real-time operating system (RTOS) for low-latency control
- Achieved 95% power efficiency with respect to resistive losses

Electric Racing Vehicle

Sept 2024 - Mar 2025

- Developed a PID controller for precise acceleration management for an electric racing vehicle
- Surpassed accelerations of over 3g and speeds of 8m/s
- Achieved sub-millimeter precision for target distances of up to 10 meters

Autonomous Maze-Solving Robot

Sept 2023 - Sept 2024

- Designed, fabricated, and assembled a custom PCB for improved signal integrity
- Autonomously navigated a 2m x 2m maze using an ESP32 and sensor fusion algorithms
- Utilized logic analyzers to debug I2C bus timing issue

Experience

Michigan Embedded Systems Hub

Sept 2025 - Present

Assistant Lab Coordinator/Student Instructor

- Teaches peers through-hole & SMT soldering in addition to PCB design using Altium Designer and KiCad,
- Manages operations of the lab, overseeing inventory of component supply and organization of the space.

Otto's Arcade

May 2025 - Aug 2025

Repair Technician

- Diagnosed and repaired arcade systems, including power supplies, CRT displays, and logic boards.
- Constructed and soldered custom wire harnesses and electromechanical assemblies

Additional Experience

Camp Counselor & Technology Specialist - EMU Invent

Jun 2022 - Jul 2022

- Led STEM activities and translated student flowcharts into C++ for microcontroller implementations

Groundskeeper - Cook Family Cemetery

2021 - 2025

- Entrusted to the general upkeep of a private cemetery registered as a Michigan Historic Place.