

RYAN ERICKSON

 ryanerickson.cv

 linkedin.com/in/ryanerickson680

 [RyanErickson680](https://github.com/RyanErickson680)

Education

Purdue University

September 2023 – December 2026

Bachelor of Science in Computer Science (In progress)

West Lafayette, IN

- Systems Software Track

Relevant Coursework

- | | | | |
|----------------------------------|---------------------|---------------------|-----------------------|
| • Data Structures and Algorithms | • Intro to Robotics | • Embedded Systems | • Systems Programming |
| | • Programming in C | • Operating Systems | • Computer Networks |

Experience

Rockwell Automation

May 2026 – August 2026

Embedded Software Engineer Intern

Chelmsford, MA

- Developed enhancements to an internal firmware debugging utility for MagneMotion industrial motor systems, expanding symbol mapping capabilities and improving developer diagnostics
- Implemented 32-bit address support within the embedded datastream framework, enabling compatibility with larger firmware memory spaces
- Investigated and resolved low-level firmware issues, including memory corruption defects, through root-cause analysis and debugging
- Collaborated with firmware engineers to improve the reliability and maintainability of production embedded software

Rockwell Automation

May 2025 – August 2025

Embedded Software Engineer Intern

Eden Prairie, MN

- Developed firmware features for industrial motor controllers in C/C++
- Integrated a debugging and logging framework to capture function calls and interrupt activity across virtual address spaces
- Resolved boot process defects responsible for field failures, improving system reliability
- Optimized network communication performance, increasing data transfer throughput by 10×

Loon Industries Robotics

August 2025 – Present

Co-Founder

- Co-founded a consumer robotics company to provide low-cost, high-performance robotic arms to make the industry more accessible to students, hobbyists, and researchers
- Designed and built the motion control system for 2 different prototype 5-DOF arms, using CAN and I2C protocols to integrate encoders, motors, drivers, and microcontrollers for precise, closed-loop control
- Built multiple iterations of operating systems to manage low-level motor control as well as high-level motion planning and inverse kinematics, including both bare-metal and FreeRTOS-based systems

Hack the Future Purdue

September 2023 – Present

Full-Stack Developer / Technical Director

West Lafayette, IN

- Oversee planning, development, and cloud hosting of 10 web-based applications a year for nonprofit organizations
- Built scheduling software for a local YWCA organization using the MERN stack
- Connected React frontend with MongoDB/Express backend for persistent scheduling data
- Taught multiple reoccurring workshops on full-stack development skills to over 100 students

Autonomous Robotics Club

September 2024 – May 2025

Vision Systems and Controls Developer

Purdue University

- Developed LiDAR-based perception and navigation software for an experimental quadruped-to-drone robotics platform
- Designed ROS2 software integrating controls, sensors, and autonomous navigation
- Integrated environmental detection into a gazebo simulation for prototyping

Technical Skills

Languages: C, C++, Python, Java, HTML/CSS, JavaScript, R, x86-64 Assembly

Developer Tools: Git/Github, VS Code, Vim, IntelliJ, Agile Methodology, Jira

Embedded: RTOS, FreeRTOS, Bare-metal, Motion Control, Sensor Integration, Arduino, Raspberry Pi

Frameworks/Protocols: CAN, I2C, SPI, IP/TCP, OpenCV, MERN, ROS/ROS2, TensorFlow, Qt