Logan Rave

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EDUCATION

The Ohio State University Columbus, OH
Pursuing B.S. in Computer Science and Engineering *Aug. 2025 - May 2029*

- Focus on software architecture, controls engineering, and autonomous systems

EXPERIENCE

DwyerOmega / Lake Shore Cryotronics | *.NET MAUI, C++, Git* *May 2026 - August 2026*
Software Engineering Intern

- Worked on Android and embedded firmware for scientific instruments
- Used .NET MAUI and the MVVM architecture to implement complex instrument interfaces
- Implemented systems on a microcontroller using code signing, synchronization, and an RTOS
- Worked with scientists on cryogenic systems to tune parameters and improve performance
- Used protocols like SCPI and JSON to facilitate communication between devices
- Learned precision metrology principles and scientific methodologies
- Integrated feedback from product stakeholders into features and improvements

PROJECTS

TagVision | *Rust, C++, OpenCV, AprilTag* *Dec. 2025 - March 2026*

- Created a high-performance vision system that estimated robot position from camera frames
- Processed over 100 high-definition frames across multiple cameras every second in parallel
- Added resilient error handling and automatic restarts to recover from camera and network failures
- Integrated AprilTag and OpenCV through FFI code that could be cross-compiled to a coprocessor

Nitrolaunch | *Rust, Tauri, SolidJS, Tokio, Git, GitHub Actions | 160+ GitHub stars* *Dec. 2022 - Present*

- Developed a desktop and terminal application to install and run the game Minecraft
- Studied and reverse-engineered APIs to add integrations with 10+ external services
- Created a custom plugin system that uses IPC and WASM to extend the program with new features
- Started UI with Tauri and SolidJS frameworks and migrated later to a native Rust framework

WorBots App | *Rust, PostgreSQL, Rocket, JavaScript, HTML* *July 2024 - February 2026*

- Developed and deployed a full-stack internal web application serving over 40 team members
- Hosted on Heroku cloud with a PostgreSQL database and securely stored and hashed passwords
- Computed statistical trends, managed schedules, and allocated scouting work between members
- Made a live scouting form that collects hundreds of dynamic data points during competitions

TECHNICAL SKILLS AND INTERESTS

- **Languages:** Java, JavaScript, C/C++, C#, Python, Rust, TypeScript, HTML/CSS, SQL
- **Frameworks and Libraries:** Tauri, SolidJS, OpenCV, Rocket, Tokio, .NET MAUI
- **Developer Tools:** Git, Docker, Linux, Visual Studio Code, GitHub Actions, Heroku, Azure DevOps

ACTIVITIES AND INVOLVEMENT

WorBots - FIRST Robotics Team | *Java, C++, Python, ROS, CAN, OpenCV* *Sept. 2022 - Present*
Software Lead and Mentor

- Lead a subteam of 5-15 students, planning tasks and teaching programming concepts
- Wrote real-time Java code to read high-speed sensor data and command complex control systems
- Spoke at outreach events and my school board to advocate for STEM education in my community