# Liam Jennings

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## OBJECTIVE

Software and robotics engineer and student with practical experience building automated tooling, embedded systems, and distributed hardware/software integrations. Skilled in C++, Python, Rust, Linux development, and CI/CD workflows. Looking to contribute to innovative robotics or embedded systems projects, solve complex engineering challenges, and collaborate with other engineers.

## EDUCATION

**Bachelors in Computer Science, Worcester Polytechnic Institute (WPI)** **August 2021 - May 2025**

with Minor in Chinese Studies, GPA: 3.93/4.0

**Masters In Robotics Engineering, WPI** **August 2024 - Dec 2026**

GPA: 3.75 / 4.0

## SKILLS

**Languages:** C, C++, Python, Rust, Java, Typescript, MATLAB, Mandarin Chinese (Intermediate)
**Software & Technologies:** Linux, Git, CI/CD, ROS, Docker, Embedded Programming, CAN Bus, SolidWorks CAD (CSWA)

## EXPERIENCE

**Hardware Test Engineering Co-op, Symbotic, Boston MA** **July - December 2025**

- Designed and validated embedded and electromechanical subsystems for large-scale robotic automation systems.
- Built automated Python tools for log parsing and time-series visualization using InfluxDB, reducing debugging time by 40%.
- Used Git, unit testing, and CI/CD to improve reliability and maintainability of internal automation tools.
- Debugged robotic subsystem hardware using oscilloscopes, CAN analyzers, logic analyzers, and DAQ systems.
- Collaborated with software, electrical, and mechanical teams to ensure system-level reliability.

**Backend Computer Security Software Intern, STR, Boston, MA** **May - August 2022**

- Developed a diagnostic tool in .NET and C# to introspect live .NET applications and document data structures, object classifications, and memory addresses. Used by team members to aid in the development of other projects.

## PROJECTS AND ACTIVITIES

**WPI Formula Electric 2025 Electronics & Software Team** **August 2024 - May 2025**

- Developed and designed STM32-based mixed-signal PCBs for real-time sensor acquisition on a Formula SAE electric racecar.
- Implemented a Bluetooth-based communication system for live telemetry and driver-ground communication.
- Implemented communication protocols (CAN, UART, SPI) for embedded modules.
- Performed hardware bring-up, SWD debugging, and signal testing on custom boards.

**Racecar Telemetry Dashboard, WPI** **Jan - July 2024**

- Designed and built a real-time telemetry system using C++, Linux, Raspberry Pi, and CAN bus.
- Implemented time-series logging and live visualization for debugging vehicle performance.

**Sliding Mode Control & Motion Planning for UAV Interception, WPI** **October - December 2023**

- Designed a sliding mode controller and implemented predictive kinematic modeling using MATLAB.
- Developed a simplified motion planning pipeline for quadrotor interception.

**ROS Robotics Development, WPI** **2023 - 2024**

- Developed TurtleBot3 and robotic arm simulations in ROS/Gazebo, including Deep Q-Learning, TF chains, screw kinematics/dynamics modeling.
- Built and tested systems with joint-level control, RViz visualization, and motion planning pipelines.

**Sustainable Waste Management Initiative, IIT Mandi, India** **January - May 2024**

- Interviewed students, villagers, and officials to assess waste practices and co-authored recommendations for the Institute.