LIAM JENNINGS

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EDUCATION

Worcester Polytechnic Institute (WPI), Worcester, MA — Expected 2025
Bachelor of Science in Computer Science
Minor in Chinese Studies
GPA 4.0/4.0

Relevant Courses
Linear Algebra, Differential Equations, Embedded Computing, Unified Robotics 2, Foundations of Robotics, Operating Systems, Software Security Engineering, Algorithms, Artificial Intelligence, Machine Learning

SKILLS

Programming Languages: C, C#, Java, C++, Python, MATLAB

Software & Technologies: Linux, Embedded Programming, Arduino, Git, Robot Operating System (ROS), Serial Manipulator Control

INTERNSHIPS

Systems and Technology Research (STR) Internship Woburn, MA — May 2022 - August 2022

- Created a diagnostic tool to gather extensive low level data on live .NET applications
- Able to introspect into internal data structures, revealing all objects on the heap and their associated class and memory address
- Tool used by employees to aid in developing other projects
- Presented results to senior company executives

PROJECTS & ACTIVITIES

Jet Engine Project Software Developer, WPI — Feb 2023 - Present

- Cooperate with other team members to design and build a testbed for small jet engine projects.
- Develop sensor firmware to collect and analyze test data, including thrust and fuel consumption

Autonomus Robot Simulation using Deep Q Learning, WPI — Nov 2022 - Dec 2022

- Simulated a Turtlebot maneuvering a cylinder to a goal within Robot Operating System's Gazebo.
- Controlled robot through a Deep Q reinforcement learning algorithm.

Romi Escape Room, WPI — Nov - Dec 2022

- Collaborated with team to build and program 3 Romi robots to autonomously work together to escape a maze
- Navigated maze intelligently using forward and inverse kinematics, wall following, sensor fusion
- Controlled through a serial connection to an ESP32, which networked with other robots through MQTT

MSP430 Microcontroller Projects, WPI — Sep - Oct 2022

- Collaborated with partner to complete various projects on a resource constrained system.
- Implemented versions of games such as Space Invaders and Guitar hero, configuring Timers, an ADC, and a DAC with registers.
- Used SPI to create a rudimentary function generator, generating square, sawtooth, and triangle waves

VEX Pizza Robot, WPI — Oct - Dec 2022

- Worked with a team to design, build, and program a robot to deliver 'pizzas' (wooden plates) to various slots on a playing field
- Designed and built a four-bar mechanism in conjunction with a conveyor belt gripper
- Implemented a state machine with PID controls, including an autonomous phase relying solely on sensor and computer logic
- Developed including initial prototypes and plans, and analysis of final design including static analysis and torque calculations

Treasurer - Cyber Security Club, WPI — Sep 2021 - Present

- Manage finances and request funds from college administration.
- Attended and presented lectures on various cyber security topics weekly
- Collaborated with other members to create a phishing awareness campaign to spread cyber security mindfulness at WPI

Treasurer - Computer and Technology Club, WPI — Sep 2021 - Present

Automated Hydroponics System - Personal Project, Seattle, WA — Dec 2020 - June 2021

- Combined electronics, sensors, and a framing structure to build a custom hydroponics growing system

INTERESTS

Reading, Hiking, Baking, Tinkering, Sleeping, Traveling