

Christopher Keenan

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github.com/Sequence-Zero

Software Engineering Intern Candidate

Computer Science student building production-style systems across back end, front end, and embedded layers. Experience designing modular REST APIs, implementing testable components, integrating hardware control with higher-level logic, and debugging multi-layer software stacks. Seeking Summer SWE internship.

Education

Southern New Hampshire University

Manchester, NH

B.S. Computer Science

2026

Projects

SensorStream — Real-Time Sensor Data Ingestion Platform Python (FastAPI), Flask, React, REST APIs, PostgreSQL/MongoDB

- Designed and implemented a modular REST API for structured sensor-data ingestion with validation and error handling.
- Built session-based ingestion logic tracking accepted/rejected payloads and enforcing schema constraints.
- Developed a frontend dashboard for live telemetry visualization using React component architecture.
- Structured backend using layered service architecture separating routing, validation, and ingestion logic.
- Implemented debugging instrumentation and a deployment checklist simulating production release workflow.

Autonomous Locomotion Robot — ROS2 + Arduino Hybrid Control System ROS2 (Ubuntu), Python, C (Arduino), Serial, L298N

- Architected a distributed control model separating high-level decision logic (ROS2 nodes) from low-level motor firmware.
- Implemented a serial communication bridge transmitting motor commands and receiving sensor telemetry.
- Integrated ultrasonic and infrared sensors for layered obstacle detection and autonomous behavior.
- Developed differential-drive motor control firmware with modular pin definitions and hardware abstraction.
- Configured Ubuntu-based ROS2 environment and validated hardware communication over Linux serial interfaces.

C++ / OpenGL Reactor Scene

C++, OpenGL

- Implemented an object-oriented rendering pipeline including camera control, lighting models, and transformation matrices.
- Optimized render loop and shader configuration to demonstrate understanding of graphics pipeline architecture.
- Produced reproducible build with documentation and screenshots for portfolio demonstration.

Task & Contact Management Test Suite

Java, JUnit 5, TDD

- Designed domain models with validation constraints and CRUD-style service layers.
- Wrote comprehensive unit tests covering instantiation, state transitions, and edge-case validation.
- Applied object-oriented design principles and test-driven development methodology.

Technical Skills

Languages: Python, Java, C/C++, JavaScript

Frameworks & Tools: Flask, FastAPI, React, ROS2, JUnit 5, Arduino, OpenGL, Git, Linux, Maven

Databases: PostgreSQL, MySQL, SQLite, SQLAlchemy, MongoDB, PyMongo

Libraries: pandas, NumPy, Matplotlib

Concepts: REST APIs, OOP, CRUD Architecture, Data Validation, Distributed Systems Fundamentals, Embedded Systems Integration

Experience

Customer Solutions Specialist

Hamilton, NJ

Lowe's Home Improvement

Apr 2024 – December 2025

- Delivered technical troubleshooting and issue resolution for high-volume customer interactions, strengthening analytical problem-solving under time constraints.
- Reduced operational errors by **25%** through process optimization and cross-functional collaboration.
- Authored structured SOP documentation to standardize issue escalation and improve workflow efficiency.