Johnny Ling

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Summary

Software Developer with **1.5 years of experience** developing **embedded real-time systems**, **safety-critical applications**, and **automated testing frameworks**. Proficient in **C++**, **Python**, and **Linux development environments** with hands-on experience in hardware-software integration and **multi-threaded systems**.

Technical Skills

Programming Languages: C++, Python, JavaScript, Node.js, SQL, C, C#, Java, Bash/Shell Scripting
Frameworks & Tools: Git, Linux, Docker, Qt, Embedded Systems, Real-Time Programming, Multi-Threading
Technologies: REST API, MongoDB, React, Selenium (Test Automation), PyTorch, NumPy, scikit-learn

Education

Carleton University   2020 – 2025
Bachelor of Computer Science (Honours)   *Ottawa, Canada*

Experience

Sales Process Optimizer   January 2024 - September 2024
Ecomtent   *Toronto, Ontario*

- Architected an automated pipeline with **Python** and **Selenium** that scraped **500+** raw leads from online listings, replacing a slow and manual discovery process
- Implemented a validation component within the pipeline to automatically filter raw leads against key criteria, saving **15+ hours** of manual review time per week
- Organized the filtered leads into data sheets for the sales team, resulting in a **200%** increase in qualified leads

Web Developer   December 2022 - March 2023
Lando Automation Inc   *Remote*

- Developed an interactive mapping interface with the **Google Maps API** and **React** to visualize complex geospatial data, allowing users to pin and retrieve location information
- Implemented a **JavaScript** file uploader to support importing **user-driven data**, successfully validating and processing shapefiles for immediate display on the map
- Reduced application support tickets by **40%** by implementing systematic error handling during a major **API refactoring** initiative, directly improving system stability

Software Developer Intern   September 2021 - November 2021
Cynergy Technologies   *Remote*

- Developed and maintained core registration functionality using **PHP** and **MySQL** for a large-scale platform, successfully serving over **20,000** users
- Contributed to the delivery of **150+** course enrollment solutions by building and integrating responsive forms with the back-end **MySQL** database

Projects

ZOLL AED Plus Simulator | *C++, Qt Framework, QCustomPlot, Linux*

- Developed an **embedded software simulator** for a real-time medical device using **C++** and **Qt framework**, implementing critical AED functionality including ECG signal generation, shock delivery protocols, and CPR monitoring with precise timing control
- Built **interactive GUI** application with **real-time ECG visualization** using **QCustomPlot**, dynamic progress monitoring for CPR compressions (60-95% target range), and synchronized visual feedback systems
- Integrated **AED simulated components** with **state-driven architecture** including a dual electrode pad attachment, compression strength meter, and 5-stage LED indicator system

Real-Time Elevator Control System | *C++, Qt Framework, Linux*

- Developed an **embedded real-time elevator control system** using **C++** with **Qt framework**, implementing critical safety protocols including fire detection, power management, and emergency response with **deterministic timing requirements**
- Integrated **multiple sensor subsystems** (fire, weight, door obstruction, power) with **centralized control architecture**, managing **hardware-software interfaces** and **real-time sensor data processing** for safety-critical applications