

Luke Lu

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PROFESSIONAL EXPERIENCE

Full Stack Software Developer: Android Platform – Canadian Nuclear Laboratories

Jan 2025 – Present

Tech stack: .NET MAUI, ASP.NET Core, C#, JavaScript, HTML/CSS, MS SQL Server, SQL Server Reporting Services

- Leading the implementation and assisting in the design of a secure high-availability fault-tolerant android platform that will be the next evolution of our existing sitewide facility readings & inspections system. Expecting to deliver a cutting-edge end-product consistent with CNL's reputation of technological excellence.
- Leading the onboarding of new interns while delivering high-priority features to our clients for ongoing projects.

Full Stack Software Developer: Web & Database Systems – Canadian Nuclear Laboratories

Sept 2023 – Dec 2024

Tech Stack: ASP.NET Core, C#, JavaScript, HTML/CSS, MS SQL Server, SQL Server Reporting Services

- Spearheaded the implementation of a robust feature-rich web platform automating sitewide equipment maintenance operations, reducing missed required maintenance by >95% and overhead time by >80%.
- Revamped user experience on the Fleet Management web platform, reducing both loading time and clicks-per-operation by >50%.
- Streamlined reporting services by altering database schema to support report-oriented tables; reduced lines-of-code for reporting queries by >30% and stored procedure execution times by >50%.
- Introduced live data analytics to the Fleet Management homepage and on-demand reporting, reducing error margin of frequently requested reports by >90% and saved >300 work hours and counting.
- Enhanced the integrity of our data pipeline for numerous projects by normalizing database tables and implementing additional client and server-side input processing and validation, eliminating all data anomalies.

TECHNICAL SKILLS

Languages

- C#, Java, C++, Python, JavaScript, HTML/CSS, SQL (SQL Server, Oracle, SQLite)

Platforms, Frameworks, and Architectures

- .NET (.NET MAUI, ASP.NET Core), React.js, Node.js, Express.js, JUnit, GNU (GDB), MVC, REST

Technologies and APIs

- Git, Docker, AWS, IIS, Unix (Linux, Mac), OpenGL, Postman, SSRS, JDBC, JSON, Ollama, OpenAI

EDUCATION

Major in Computer Science: Bachelor of Science – University of British Columbia

Sept 2021 – May 2026

Core GPA: 3.85 | 83%

RECENT SOFTWARE PROJECTS

Project Ramster

Winter 2025

Tech Stack: C++, OpenGL

- Building a fully functional indie arcade game from scratch. Using C++ to program core game mechanics and OpenGL for graphics. Expecting to create intelligent opponent AI with a combination of conventional programming and OpenAI API calls.

LLM Code Interpreter

Summer 2024

Tech Stack: React/Express.js, JavaScript, HTML/CSS, SQLite, Docker, Ollama

- Built a database and LLM-Driven React/Express.js web application that generates code based on user prompts.
- Harnessed open-source large language models using a Docker-Containerized Ollama API to generate working code. Ensured consistency through extensive prompt engineering and output parsing.
- Containerized and deployed using Docker for maximum device compatibility.

Trip Organizer

Summer 2023

Tech Stack: Java, JDBC, Oracle Database, JavaFX

- Developed a robust database-driven CRUD app for managing trips. Built a Java back-end integrated with an Oracle database via JDBC and displayed to the user using a JavaFX front-end.
- Designed a database schema with industry-standard levels of normalization in entity relationships and column constraints, maximizing both table simplicity and data integrity.