Luke Lu

lukelu.dev | luke.yanglu@outlook.com | linkedin.com/in/lukeyanglu | github.com/LukeL0000

EDUCATION

Major in Computer Science, Bachelor of Science – University of British Columbia *Sept 2021 – May 2027*
GPA: 3.85 | 83%

- Recipient of Dean's List Award for Fall 2021 and Winter 2022 semesters.

PROFESSIONAL EXPERIENCE

Full Stack Software Developer: Android Platform – Canadian Nuclear Laboratories *Jan 2025 – Present*
Tech stack: .NET MAUI, C#, XAML, MS SQL Server, Visual Basic

- Leading the prototyping of a secure fault-tolerant android platform that will be the next evolution of our sitewide facility readings system. This platform will support hundreds of users and millions of records.
- Built a RESTful API service joining the client and database, ensuring heightened scalability, security, and robustness.

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.

RECENT SOFTWARE PROJECTS

Indie Physics Game (Project Ramster) *Winter 2025*
Tech Stack: C++, OpenGL, Box2D

- Built a fully playable indie arcade physics game from scratch in C++, using OpenGL for rendering and the Box2D physics library.
- Followed game development best practices including a robust Entity-Component System and segmenting core functionalities including rendering, physics, and enemy AI into separate systems working on their respective entities.

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.

TECHNICAL SKILLS

Languages

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

Platforms, Frameworks, and Architectures

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

Technologies and APIs

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