

Alain Ballen

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[GitHub](#) | [LinkedIn](#) | [Personal Website](#)

EXPERIENCE

Software Developer

Dec 2024 - Present

Intelligent Innovations Lab | Peterborough, ON

- Planned and developed a scalable mobile and web application with Flutter supporting iOS and Android devices
- Designed and implemented a secure user authentication and account creation flow using Firebase Authentication, integrating OAuth providers and optimizing sign-up success rates by 80%
- Architected a secure document uploading pipeline using Google Cloud Functions to handle sensitive data, implementing encryption and access controls, reducing processing time by 30%

Founding Software Engineer

May 2024 - Sep 2024

rou3 | Toronto, ON

- Designed and managed a distributed SQLite database with Turso storing user data and LLM usage metrics, optimizing complex queries for performance and scalability
- Built a comprehensive [dashboard](#) with scalable and secure RESTful APIs using JWT-based authentication
- Designed [LLM Proxy](#) - supports prompt routing and classification achieving a 30% reduction in LLM usage cost
- Automated testing workflows with GitHub Actions reducing testing effort by 60%

Software Engineer Intern

Sep 2021 - Sep 2022

Nuula | Toronto, ON

• Backend Engineer

- Integrated event-driven features with real-time analytics using Spring Boot microservices
- Achieved a 30% reduction in resolution times by implementing a structured and encrypted logging system enabling a faster debugging of 80% error logs

• QA Analyst

- Designed a 95% test coverage suite of core features by designing 300+ scenario-based test cases
- Verified over 300+ features/fixes for production in collaboration with 4 fast-paced development teams

PROJECTS

Pillminder | Node.js, React, Firebase

- An innovative solution built with Google's Cloud Vision API and Twilio API for managing your prescription medication as part of a fast-paced 24-hour hackathon

Venngram | JavaFX, CircleCI, JUnit

- A Venn Diagram application supporting a custom file format system with unit tests achieving a high-test coverage of 82%

EDUCATION

Bachelor of Engineering (B.Eng), Software Engineering

Sep 2018 - Apr 2024

York University | Toronto, ON

- Data Structures & Algorithms, Database Systems, Object Oriented Programming

VOLUNTEER EXPERIENCE

NextGEN Council Leader (STEM Stream) | The MINA Project – led a passionate group of 50 high school students in developing their leadership skills through one-on-one mentorship. Facilitated 5 networking workshops to foster professional growth in STEM

President | Dragon Boat Team at York – managed a team of 10 executive members while coordinating events, financial decisions, and team planning. Raised over \$2000 in external funding, fundraising initiatives, and merchandise sales

TECHNICAL SKILLS

Languages: Java, C++, C#, Go, TypeScript, Python, SQL

Tools/Frameworks: React.js, Vue.js, Spring Boot, FastAPI, Node.js, GraphQL, Microservices, Hibernate, GCP (Cloud Functions, Firebase), MySQL, PostgreSQL, GitHub Actions, Docker

Concepts: Event-Driven Architecture, OAuth2/JWT Auth, Database Optimization, Agile/Scrum, Microservices, RESTful API, Design Patterns