

# Alain Ballen

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

## EXPERIENCE

### Software Developer (Part-time)

Dec 2024 - Present

Intelligent Innovations Lab | Peterborough, ON

- Plan and develop 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

### 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
- Designed the end-to-end architecture of Nuula's Term Life Insurance Tool API with Swagger documentation and load-tested endpoints supporting a 30% increase in user adoption

#### • QA Analyst

- Spearheaded a 95% test coverage suite of core features by designing 300+ scenario-based test cases
- Automated smoke tests for Nuula's core Loan, Social Health, and Accounting features using Appium and TestNG, integrating them into CI/CD pipelines reducing pre-release testing effort by 30%

## 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, Python, TypeScript/JavaScript, Go, SQL, GraphQL, Bash

**Backend:** Spring Boot, Node.js, REST/GraphQL APIs, Microservices, Hibernate, JUnit, Maven/Gradle

**Frontend/Mobile:** React, Flutter (iOS/Android), JavaFX, HTML/CSS

**Infrastructure:** Docker, GCP (Cloud Functions, Firebase), MySQL, PostgreSQL, CI/CD (GitHub Actions, CircleCI)

**Concepts:** Event-Driven Architecture, OAuth2/JWT Auth, Database Optimization, Agile/Scrum, Microservices