

Owen Zhu

Toronto, ON

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EXPERIENCE

Amazon Robotics – Software Development Engineer

Toronto, ON | July 2025 – Present

- Owned the end-to-end lifecycle of 6 high-impact productivity and quality-of-life features for workcells, operating autonomously to design, integrate, and roll out features across global Amazon Fulfillment Centers, generating **\$1.8M in annual savings**.
- Authored the deprecation strategy and architecture design for a core data model service, analyzing **S3 and SNS dependencies** to identify all downstream consumers, map migration paths, and define a zero-downtime execution plan.
- Drove **Operational Excellence** during on-call rotations, managing up to 10 weekly high-severity incidents (SEV-1/SEV-2) during peak cycles and executing rapid live debugging to minimize production downtime.
- Designed event-driven backend services for robotic fleet management using **Kotlin** and **AWS Lambda**, processing high-throughput telemetry via SQS/SNS with **idempotent consumers**.

Faire – Android Engineer

Toronto, ON | Sep 2024 – Dec 2024

- Led the migration to type-safe **Compose Navigation**, designing a custom routing system to pass complex arguments with optimized serialization, reducing navigation latency by **200ms**.
- Authored a comprehensive Engineering Design Document to standardize navigation patterns, researching and implementing type-safe arguments to ensure scalability and developer velocity.
- Engineered the Android frontend for **experimental AI features**, transforming design concepts into functional implementations to introduce multimodal capabilities for the retailer app.
- Enhanced the custom MVVM architecture using **RxJava** to streamline reactive data flows, significantly improving code maintainability for complex retailer workflows.

Intuit – Software Engineer

Toronto, ON | Sep 2023 – Aug 2024

- Built the 'Document Checklist' widget in **Native Android**, replacing a legacy WebView to reduce load times from **6.0s to 1.5s**, streamlining the document upload flow for **3M+ monthly users**.
- Designed and deployed exclusive features (swipe-to-delete, bulk uploads, cloud integration) that increased user conversion rates, validated through production **A/B testing**.
- Reduced manual testing time by implementing automated UI tests using **Appium**, leveraging XCUITest (iOS) and UIAutomator2 (Android) to ensure cross-platform stability.

theScore – Software Developer

Toronto, ON | Jan 2023 – Apr 2023

- Delivered enhancements to 10+ screens including the new 'Teasers' bet type, leveraging Kotlin and **Apollo GraphQL** to drive user engagement.
- Refactored legacy code to remove **5000+ unused lines**, reducing module compile times by **10%** and improving developer velocity.

Innovapost – Android Developer

Ottawa, ON | Apr 2022 – Aug 2022

- Developed a proof-of-concept NFC-based SSO login system, reducing authentication time by **70%** and streamlining access for thousands of logistics employees.
- Strengthened security by implementing **AES-256** encryption for credential storage and integrating Android's Keystore system.

EDUCATION

University of Waterloo | Bachelor of Computer Science, Honours Co-op

Waterloo, ON | Sep 2020 – Apr 2025

GPA: 3.7/4.0 | Graduated with Distinction

PROJECTS

Java Compiler

- Built a compiler for Java 1.3 from scratch using **C++**, employing flex/bison for lexing and parsing, and drawing inspiration from Clang for AST design and construction.
- Implemented advanced compiler optimizations including **constant folding** and **dead code elimination** to significantly enhance executable performance.

SKILLS

Languages: Kotlin, Java, Python, TypeScript, SQL, C/C++, Go, Rust, Swift

AWS / Cloud: Lambda, DynamoDB, AppConfig, ECR, CDK (IaC), CloudFormation, SQS/SNS, IAM, CloudWatch, Datalake

Practices & Ops: System Design, Microservices, Operational Excellence, Distributed Systems, CI/CD, Agile

Frameworks & Tools: Spring Boot, React, Node.js, Jetpack Compose, Apollo GraphQL, Docker, Git, Postman