

Alexander Yoon

647-518-5665 | alexanderyoon02@gmail.com | [linkedin](#) | [github](#) | alexyoon.com

Experience

Amazon

Vancouver, BC

Software Engineer Intern

May 2025 – Aug. 2025

- Designed and shipped **Overnight Upload** for Amazon Photos Android in Kotlin, enabling automated background backups for a platform serving **200M+ customers**
- Engineered asynchronous upload workflows using **Android WorkManager**, persistent checkpoints, network-aware scheduling, and exponential backoff, modeling a **35% improvement in backup completion**
- Implemented fault-tolerant integrations with **AWS S3, Lambda, and CloudWatch**, using idempotent retries and failure telemetry to reduce failed-upload recovery time by **40%**
- Developed automated tests simulating connectivity loss, process termination, and interrupted uploads, validating data consistency and recovery across Android lifecycle constraints
- Owned end-to-end delivery through technical design, code reviews, feature-flagged rollout, and production monitoring, collaborating with Android, iOS, QA, and Product teams

CIBC

Toronto, ON

Software Engineer Intern

Sep. 2024 – Apr. 2025

- Developed enterprise data integrations and backend workflows using **Python, SQL, REST APIs, Azure Data Factory, and Databricks**, supporting internal financial reporting systems
- Built automated **PySpark ETL pipelines** to ingest, transform, and validate **5M+ Salesforce records**, eliminating **10+ hours of manual reporting per cycle**
- Optimized distributed processing through incremental ingestion, SQL query tuning, partitioning, and parallel execution, reducing end-to-end pipeline runtime by **30%**
- Implemented automated data-quality checks, duplicate detection, and integration tests to identify upstream inconsistencies, reducing reporting errors by **25%**

Projects

CraveAI: Open-Sourced AI-Powered Full-Stack Recommendation Platform

[GitHub](#) | [Live Demo](#)

- Architected and deployed an open-source restaurant discovery platform using **React, TypeScript, Python, FastAPI, and Docker**, owning frontend architecture, backend APIs, and cloud deployment
- Built a retrieval-augmented generation (RAG) pipeline with **LangChain and ChromaDB**, combining vector search, user preferences, and external restaurant data to generate grounded recommendations
- Developed an automated evaluation framework to diagnose retrieval and grounding failures, improving **Precision@3 from 43.3% to 96.7%** and reducing unsupported outputs from **56.7% to 0%** on evaluated cases
- Secured REST APIs with **HMAC authentication**, request validation, rate limiting, caching, and usage quotas, protecting external integrations against unauthorized access and excessive requests
- Deployed services through **Vercel, Render, Docker, and CI/CD**, implementing health monitoring, structured logging, and **114 automated backend and frontend tests**

Pocket AI: Voice-Driven Mobile Workflow Automation

[GitHub](#)

- Led a team of **5 engineers** developing a mobile application that converts spoken dairy farm updates into structured records using **React Native, TypeScript, Python, Flask, and REST APIs**
- Designed a voice-to-record processing pipeline with structured field extraction, input validation, and backend synchronization, supporting reliable data entry in noisy environments
- Evaluated transcription and field extraction across **100 noisy voice commands**, achieving **87% exact-field accuracy** while reducing average task-entry time by **60%**, from 45 to 18 seconds
- Implemented offline-first persistence using **SQLite**, queued synchronization, retry logic, and conflict resolution, preserving **100% of records across 25 simulated network failures**

Education

McMaster University

Hamilton, ON

Bachelor of Software Engineering | GPA: 3.84/4.00

2021 – 2026

Technical Skills

Languages: Python, Java, Kotlin, TypeScript, JavaScript, SQL, C++, C#

Frameworks & Development: React, React Native, Android, FastAPI, Flask, Node.js, REST APIs, LangChain

Cloud & Infrastructure: AWS, Azure, S3, Lambda, CloudWatch, Docker, Vercel, Render, CI/CD

Databases & Data: PostgreSQL, SQLite, MongoDB, ChromaDB, PySpark, Databricks, Azure Data Factory

Tools & Engineering: Git, Codex, Android WorkManager, Automated Testing, API Integration, Observability, Agile