

Gordon Ng

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Education

Software Engineering B.Sc.

Expected Graduation Fall 2026

McGill University

- Data Structures & Algorithms, Databases, Operating Systems, Distributed Systems, Machine Learning, Artificial Intelligence
- Webmaster and Vice President of External Affairs of HKSN, an East Asian culture club

Experience

Intact Insurance | Software Developer Intern

May 2025 - Aug 2025

Java, Kotlin, Spring Boot, AWS, Maven, BFF, Swift, SwiftUI, MVVM

- Delivered scalable **RESTful APIs** with **Spring Boot** integrated with **AWS S3** within a **BFF** architecture
- Reduced client-side upload **API** usage by **6%** through hash based duplicate detection in **Cryptokit** promoting efficiency
- Optimized file selection time in a claim by **70%** using concurrent processing handling parallel tasks

BetterSleep | Software Engineer Intern

Sep 2024 - Dec 2024

Tensorflow, Python, Realtime Database, Firestore, Swift, SwiftUI, MVC

- Architected in **Swift** a **Factory** pattern leveraging **dependency injection** saving **10%** in memory usage across the application
- Leveraged **Firebase Realtime Database** to develop a new **JSON** feed main sounds page in **SwiftUI**
- Upgraded **Tensorflow** sound models to enhance **audio categorization** for sleep sounds by **15%**

HKSN | Webmaster

Aug 2024 - Present

- Architected a website with **JSON**-driven UI components in **BootStrap**, **Javascript**, **HTML** and **CSS**

TouchTunes | iOS Developer Intern

May 2023 - Aug 2023

Swift, UIKit, Jenkin, Firestore, MVC

- Resolved a critical **production outage** in payment processing impacting **10,000+** users for a **UIKit** music application
- Led **AB Test** development of a music queue feature in **Firebase Firestore** with a **30,000-user** test group

Projects

[Mobile Gaming Application](#) | 350,000+ downloads

Swift, SwiftUI, Concurrency

- Enabled access to third party game content over **250% faster** for **50,000+** monthly active users
- Utilised **REST APIs** with **JWTs** and **asynchronous** calls for asset management

[Mars Rover Simulator](#) | 7-person project

Python, SQLite, A-Star

- Engineered custom **Python UI components library** with frame-by-frame UI rendering
- Implemented **multiple pathfinding algorithms** (A*, BFS, DFS) in **Python** with customizable **heuristics**
- Integrated with a **SQLite project management system** with persistent rover configurations

[AI Game Agent](#) | 90th percentile tournament performance

Python, Genetic Algorithms, Minimax, Alpha-Beta Pruning

- Implemented **minimax algorithm** with **alpha-beta** and **iterative deepening search** for a strategic two-player game
- Engineered **genetic algorithm** with **crossover** and **mutation** to optimize heuristic weights across different playstyles

[yapOS](#)

- Developed in **C** a **Unix-like OS** simulator with a **REPL shell** interface, **process scheduling**, and a **FAT-style file system**
- Implemented **multithreaded process scheduling** with demand-paged memory management using **LRU eviction**
- Designed **block device** simulator with **persistent storage** layer supporting file system operations

Skills

Languages: Swift, Python, Java (Proficient), Kotlin, C, JavaScript, Bash, SQL, HTML, CSS (Intermediate)

Technologies: Spring Boot, SwiftUI, UIKit, SwiftData, SwiftTesting, XCTest, SPM, GCD, BFF, Concurrency, Firebase, Bitrise

Spoken: English, French (Fluent), Mandarin, Cantonese (Intermediate)