

# Matthew Hao

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## Education

University of Waterloo

Sept 2020 – May 2025

B.A.Sc in Computer Engineering

GPA: 3.7/4.0

- **Coursework:** Algorithms, Data Structures, Concurrency, Operating Systems, Networks, Databases

## Skills

**Languages:** Java, Python, C++, C, JavaScript, TypeScript, HTML, CSS, Kotlin, Golang, PHP, SQL

**Tools and Technologies:** AWS, Azure, Git, Docker, Jenkins, Spring Boot, React.js, Next.js, PostgreSQL, MySQL, Microsoft SQL Server, Firebase, Jira, Confluence

## Experience

PointClickCare

Sept. 2024 – Dec 2024

Fullstack Engineer Intern

Toronto, ON

- Designed and developed features and interface for Practitioner Workspace application to streamline patient data management and processing in **reliable and secure environment** using Java, Spring Boot, React, TypeScript
- Implemented and iterated on draft functionality for encounter note feature, enhancing usability and reducing time to publish notes by **32%**, increasing user satisfaction and retention
- Designed and **prototyped database, API, and UI** for a POC to evaluate effectiveness of **AWS, Azure, and Nuance** speech-to-text service providers in transcribing medical record readouts with regional accents

Immigr8

Jan. 2024 – Apr. 2024

Fullstack Engineer Intern

Toronto, ON

- **Led small team** in development and testing and **drove design decisions** for over **15 features** end-to-end to build a modern SaaS U.S. Visa Application platform, resulting in improved application success rate, reduced processing time by **43%**, and streamlined collaboration between applicants, employers, and attorneys
- Reworked data flow of walkthroughs for account registration, basic information entry, passport, and I-129 forms to **improve efficiency and reduce loading times** by **50%** by reducing redundant API calls

PointClickCare

Jan. 2023 – Apr. 2023

Software Engineer Intern

Toronto, ON

- Designed and implemented a dry run API endpoint for reingestion of a list of patient resources using **Kotlin and MS SQL Server**, leading to an over **60% reduction** in ingestion time of individual patients
- Reworked SQL queries to fetch provenance data from MS SQL Server and created provenance resources using Kotlin including test cases, for over **10 resources**, to comply with FHIR standards
- Optimized and updated Maven dependency versioning while maintaining application functionality and performance to resolve over **15 critical, 30 high and 20 moderate** security vulnerabilities

Zynga

May. 2022 – Aug. 2022

Software Engineer Intern

Toronto, ON

- Engineered a scalable **code coverage framework** for Storage service using PHP as part of service rewrite to identify unnecessary code, improve code quality, and enhance maintainability of rewritten service
- Prototyped **integration test suite** for storage service using Golang to validate functionality of rewritten service and increased code coverage by **37%**
- Incorporated MinIo into Dockerized application to **emulate AWS S3 buckets** and tested archive restoration functionality using **AWS Golang SDK**

## Projects

Mindful Journaling App 📱

- Collaborated with team and drove design and development of an Android journaling application focused on promoting user mindfulness and daily self-reflection using **Kotlin and SQLite**
- Prototyped, implemented, and tested calendar view, notifications, biometric/password lock, and multimedia entries

Realtime Operating System

- Designed and implemented a **multi-tasking kernel** with built-in memory allocation, inter-task communication, and console I/O for ARM processors in **C**, using a highest-priority scheduling algorithm supporting pre-emption and blocking