

Matthew Hao

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Education

University of Waterloo

Sept 2020 – Apr 2025

B.A.Sc in Computer Engineering

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

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
- Increased user satisfaction and retention by implementing and iterating on draft functionality for encounter notes, enhancing usability and reducing time to publish notes by **32%**,
- Designed and prototyped **database, API, and UI** for standalone application to evaluate effectiveness of **AWS, Azure, and Nuance** speech-to-text services in transcribing medical record readouts with regional accents

Immigr8

Jan. 2024 – Apr. 2024

Fullstack Engineer Intern

Toronto, ON

- Built up U.S Visa application platform to **market ready state with initial clients** by leading small team in development, driving design decisions for over **10 features end-to end**, enabling improved application success rate and reduced processing time by **43%**
- **Reduced loading times by 40%** by removing redundant API calls and reworking data flow of walkthroughs for account registration, basic information entry, passport, and I-129 forms

PointClickCare

Jan. 2023 – Apr. 2023

Software Engineer Intern

Toronto, ON

- Achieved over **50% reduction** in ingestion time of individual patients through the design and implementation a dry run API endpoint for reingestion of a list of patient resources using **Kotlin and MS SQL Server**
- 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** to ensure new API compatibility

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 memory allocation, inter-task communication, and console I/O for ARM processors in **C**, using a priority scheduling algorithm supporting pre-emption and blocking