

MICHAEL HE

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SKILLS

Languages

Java Python JavaScript TypeScript C/C++ HTML/CSS Scala Objective C Go

Technologies

React Flask Next.js Node.js Express.js Django Apollo Docker Git/GitHub AWS Kafka

Databases

Elasticsearch SQL GraphQL Firebase MongoDB

EDUCATION

University of Waterloo

Waterloo, ON

BACHELORS OF COMPUTER SCIENCE

2019 - 2024

- Average: **91%**, Major Average: **92%**, GPA: **3.96/4.0**
- Data Structures & Algorithms - Advanced (**94%**) , OOP - Enriched (**94%**), Compilers - Enriched (**99%**), Statistics (**97%**)
- Nortel Institute Scholarship (**\$3500**), President's Scholarship of Distinction (**\$2000**), Joe C Lee Math Scholarship (**\$1200**)

EXPERIENCE

Citadel

New York City, NY

INCOMING SOFTWARE ENGINEER INTERN

SEPTEMBER 2023 - DECEMBER 2023

- Working on post trade data operations

Bloomberg

New York City, NY

SOFTWARE ENGINEER INTERN

JANUARY 2023 - APRIL 2023

- Developed an analytics data pipeline using **Java**, **Kafka**, and **Flink** to deliver **100,000,000+** updates daily for **1,000+** clients
- Improved data pipeline throughput by optimizing Flink **serialization**, increasing throughput by **four times**
- Improved bond portfolio analytics for **1,000+** customers from **24 hour delay** to **real time** streaming
- Increased unit test coverage to **85%** using **JUnit** and **Mockito**

Gem

San Francisco, CA

SOFTWARE ENGINEER INTERN

MAY 2022 - AUGUST 2022

- Created an automation feature to perform actions on all people that match search criteria using **React**, **Flask** and **Heroku**
- Optimized **SQLAlchemy** database query function from $O(N*N)$ to $O(N)$, improving real life runtime by **80%**
- Added a gender filter for imported candidates using **Elasticsearch** which has been used **20,000+** times
- Built a feature to import, display, and filter by interview performance for **100,000+** people using **ES**, **Flask**, and **React**
- Implemented **Amplitude** logging for searches to provide **150,000+** data points on search criteria usage

A Thinking Ape

Vancouver, BC

SOFTWARE ENGINEER INTERN

SEPTEMBER 2021 - DECEMBER 2021

- Revamped offer wall to indicate promotions using **Objective C**, **Java** and **Django**, increasing net earnings by **300%**
- Created system to target offers towards specific users using **Django** and **SQL**, achieving a **22%** conversion rate
- Built an internal tool to distribute rewards to players using **Kafka**, automating a **20+** hour manual process
- Added details to profiles of banned users using **Django** and **React** to streamline workflow for community moderators

Wish

San Francisco, CA

SOFTWARE ENGINEER INTERN

MAY 2021 - AUGUST 2021

- Built a service adopted by **10,000+** merchants to store their items at Wish warehouses using **React**, **Go**, and **GraphQL**
- Implemented an **address book** feature to allow Wish Parcel users to save addresses, used by **500,000+** people
- Created REST endpoints and GraphQL queries using **Go** to filter **25,000+** shipments, increasing performance by **50%**
- Developed localization **CI/CD pipelines** with **Gitlab** to extract and translate **3,000+** strings from Wish services
- Wrote unit, integration, and E2E tests using **Nightwatch.js** to increase coverage by **15%**

Hubdoc - A Division of Xero

Toronto, ON

SOFTWARE DEVELOPER INTERN

MAY 2020 - AUGUST 2020

- Developed containerized web-scraping microservices for **10,000+** clients using **Node.js**, **Nightmare.js**, & **Puppeteer.js**
- Improved document-fetching success rate by up to **80%** by handling bot detection and refactoring legacy code

INTERESTS

- Board games, Digital Art, Basketball, Wildlife Photography, Dragonboating