

MICAH LAU

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EDUCATION

Simon Fraser University

Anticipated graduation: Summer 2023

Bachelor of Science in Computer Science; SFU Men's Varsity Swimming alumni

TECHNICAL WORK EXPERIENCE

FORM Athletica

May 2021 - Dec. 2021

Software Development Engineer in Test Intern

- Developed multi-threaded Python scripts for validating real-time metrics used in FORM's smart goggles, and integrated them into Jenkins CI/CD pipelines which expedited testing of new firmware releases
- Implemented a new feature in FORM's internal file transfer tool that allows developers to transfer up to 5 workouts at once to the goggles, without having to sync with the mobile app, thereby eliminating as much as 3 seconds of delay per sync, as well as the restraint of syncing 1 workout at a time
- Refactored legacy code to use a new class abstraction of the goggles, which allowed for improved scalability, and also reduced the length of multiple automation scripts by over 60%

PROJECTS

X Swim Team REST API and iOS app

Oct. 2021 - Jan. 2022

- Prototyped a web API using Python/Flask, then implemented a fully functioning REST API, based on this prototype, using Node and Express; developed an iOS app that uses this API to query a database, which allows coaches and swimmers to see data commonly used by swim teams in a user friendly manner
- Enhanced security by implementing an authorization system using JSON web tokens
- Migrated data for 200+ swimmers from a MySQL database to a MongoDB database by carefully mapping existing relational data models to NoSQL schemas, which improved scalability and query processing times

Federal Court Case Management System

Feb. 2021 - Apr. 2021

- Designed and implemented a full-stack web application which was used as a \$0 cost prototype in the Federal Court's Vancouver office's proposal to replace the old case management system currently in use
- Optimized average SQL query times by almost 50% by performing database normalization while working with Federal Court officers to identify federal court entities used the most in said SQL queries

Practical Parent Android app

Oct. 2020 - Dec. 2020

- Developed an Android app with Java that aims to help parents with taking care of young children
- Implemented key features including visually and aurally guided meditation; minimized latency between a coin flip sound and animation by designing a custom animation with carefully sequenced frames

TECHNICAL SKILLS

Languages

Python, C++, C, Java, Javascript, Bash, HTML/CSS, Swift, SQL

Technologies & Tools

React, Node, Express, Flask, MySQL, MongoDB, MATLAB, Appium, Newman/Postman, LaTeX, JUnit5, Git, CI/CD (Jenkins, Travis)

Operating systems

Windows 10, Mac OS, GNU/Linux (Ubuntu)

NON-TECHNICAL WORK EXPERIENCE

Burnaby Barracudas Summer Aquatics Club

Co-Head coach, Director of Competitive groups, Senior group lead coach

May 2020 - Aug. 2020

- Managed all 3 competitive groups which involved working with 50+ swimmers and 2 other coaches
- Reduced pool rental costs by over \$3000 by reorganizing group structures and practice times
- Planned and supervised 2 of the first swim competitions held amidst BC's COVID-19 health regulations