

# AKASH SHARMA

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## EDUCATION

### McMaster University

Sept 2020 – May 2024

Bachelor of Engineering in Computer Engineering, Co-op | **3.7/4.0 Cumulative GPA**

- Dean's Honours List, McMaster Honours Award

## EXPERIENCE

### Toronto-Dominion Bank

May 2022 - Aug 2022

Quality Engineer Intern

Toronto, Ontario

- Increased API test suite performance by **40%** and saved license costs by migrating **2200 test cases** from SoaTest to Rest Assured
- Developed an automatic **Selenium** script that grabs authorization tokens from 4 accounts, **saving 10 minutes of time daily**
- Engineered **7 API** test suite infrastructures using **Java** and **Object Oriented Practices** to create HTTP Request Payload objects
- Incorporated **Multithreading Java** design practices to run concurrent threads to speed up test suite run times by **200%**

### McMaster Automotive Resource Centre

May 2022 - Aug 2022

Software Developer Intern

Hamilton, Ontario

- Created a **RabbitMQ** work queue using the **Python Pika** client to distribute **1000+** time consuming tasks among workers
- Built **4 OpenAPI** schema and corresponding **PostgreSQL** table definitions to align with the data required by the researchers
- Established both a localized and server side **Liquibase** database manager using **Docker**, **Kubernetes**, and **Github Actions** to ensure local and server-side **PostgreSQL** databases are in sync

### McMaster Start Coding

Oct 2021 - Jan 2022

Web Developer

Hamilton, Ontario

- Modernized the front-end for the McMaster Start Coding website to enhance user experience and attract **100+** new users
- Implemented **Bootstrap** features to improve the **Google Lighthouse** accessibility score by **60%** across different pages, reporting progress and task distribution within an **Agile** environment using **Jira**

## PROJECTS

### Meal Idea Generator 🐙

- Developed a full-stack web application to help users conveniently generate meal ideas on a daily basis
- Built a **REST API** back-end with **Express**, **Node** and **MongoDB** with **Mongoose** to add **CRUD** functionality to the app
- Sent HTTP requests using **Axios** to connect client with server and used **Postman** to perform **100+** API tests during development
- Constructed a **React** front-end with **React Router** for client side routing and **Bootstrap** to generate simple stylized elements
- Created an authorization system with **bcrypt.js** and **JWT Authentication** to increase user security and protect 2 routes

### Gym Registration Bot 🐙

- Engineered an automatic bot using **Python** and **Google Cloud Platform** to book optimal time slots at the school gym
- Implemented a **Selenium** script to initiate an instance of Chrome that interacts with the elements of the web page to navigate through the website and **book a time slot in less than 10 seconds**
- Hosted the app on the **Google Cloud Platform** via a **Docker Container** and **Google Cloud Run** to reduce energy costs by **95%**
- Applied **Cron Jobs** and the **Google Cloud Scheduler** to schedule the program to execute automatically at 6:30 AM every other morning, increasing number of booked sessions per month by **65%**

### CHIP-8 Emulator 🐙

- Designed a CHIP-8 emulator using **C++** with the **Sample DirectMedia Layer** library to emulate and play CHIP-8 ROMs locally
- Generated **34** Opcodes to instruct the CPU and tested the emulator post-development with **10+** ROMs to ensure functionality

## TECHNICAL SKILLS

**Languages:** Python, Java, JavaScript, HTML/CSS, C, C++, Matlab, R

**Libraries and Frameworks:** Node.js, Express, React, Selenium, Tailwind, Bootstrap, Material-UI

**Developer Tools:** Git, Google Cloud Platform, MongoDB, Jira, Postman, Netlify, Heroku, PostgreSQL, Kubernetes