Akash Sharma

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EDUCATION

McMaster University   **Sept 2020 – May 2024**
Bachelor of Engineering in Computer Engineering, Co-op
- **Awards:** Dean's Honours List, McMaster Honours Award
- **Relevant Courses:** Data Structures and Algorithms, Object-Oriented Programming, Software Development

TECHNICAL SKILLS

Languages: Python, Java, JavaScript, HTML/CSS, C++, C, SQL, Verilog, 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

EXPERIENCE

Toronto-Dominion Bank   **May 2023 - Aug 2023**
Software Engineer Intern   Toronto, Ontario
- Developing an API with **Spring Boot**, and using **MuleSoft**, **SQL**, **Cinchy**, and **Java** for production support

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
- 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%**
- Developed an automatic **Selenium** script that grabs authorization tokens from 4 accounts, **saving 10 minutes of time daily**

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
- Established both a local and server-side database management system using **Liquibase**, **Docker**, **Kubernetes**, and **GitHub Actions** to ensure that the **PostgreSQL** databases remain synchronized
- Built **4 OpenAPI** schema and corresponding **PostgreSQL** table definitions to align with the data required by the researchers

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 ⚪
- Designed an automatic bot using **Selenium**, **Python** and **Google Cloud Platform** to book optimal time slots at the school gym
- 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 ⚪
- Engineered 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