Mohammed Abed

Canadian Citizen

www.abedmohammed.com | abedm@mcmaster.ca | linkedin.com/in/abed-mohammed | github.com/abedmohammed

EDUCATION

McMaster University   Hamilton, ON

Bachelor of Engineering, Software Engineering Co-op - GPA: 3.95   *Sep. 2020 — Apr. 2025 (Expected)*

- **Relevant Coursework**: Data Structures and Algorithms (Python), Advanced Databases (SQL), Concurrent Systems (C, Java, Golang), Object Oriented Programming (Java), Requirements & Testings (Java)
- **Certifications**: AWS Certified Cloud Practitioner

TECHNICAL SKILLS

Languages: JavaScript, Python, Golang, Java, TypeScript, C, SQL, HTML/CSS
Frameworks & Libraries: React.js, Node.js, Express.js, Flask, FastAPI, Next.js, Redux, Jest, Tailwind, SCSS
Tools: Git, Docker, Kubernetes, MySQL, MongoDB, AWS, Google Cloud Platform, Terraform, Postman, Linux

PROFESSIONAL EXPERIENCE

COLTENE SciCan Ltd.   Jun. 2022 — Aug. 2023

Software Engineering Intern   *Toronto, ON*

- Resolved 700+ tickets for a medical device IoT data dashboard, implementing features, debugging, and performing integration and unit testing with **React.js**, **JavaScript**, **SCSS**, and **Jest**
- Built and maintained high-performance **REST API** endpoints using **JavaScript**, **Express.js**, and **MySQL** to improve data retrieval and processing efficiency for client dashboard, resulting in a 36% improvement in response time
- Reduced testing overhead by 5 hours weekly through the development of a **Terraform** infrastructure pipeline, which automated the deployment of **Node.js** and **TypeScript** integration tests to **AWS Canaries**
- Restructured promotional campaign platform, achieving a 430% increase in submissions quarter-over-quarter, by developing high-performance and scalable web pages using **JavaScript**, and **Golang** static site framework (**Hugo**)

EXTRACURRICULAR

Google Developer Student Club   Sep. 2023 — Current

Open-Source Core Team Developer   *Hamilton, ON*

- Developing **REST API** endpoints with **Python** and **FastAPI** for an automated machine learning service used for data pre-processing and model evaluation, enhancing accessibility for users with diverse technical backgrounds
- Automating the upload of **Docker** images to **Google Cloud Platform Artifact Registry** using **Terraform** and **Github Actions**, then deploying on **Google Kubernetes Engine** for a scalable and efficient pipeline infrastructure

McMaster Formula Electric   Sep. 2021 — Apr. 2022

Cooling System Team Member   *Hamilton, ON*

- Designed a wireless **Arduino** sensor system to quickly export live coolant temperature data using **Python** which was used for performance optimization and ensuring safety parameters
- Validated material selection using maximum loads and temperatures to conduct force calculations in **MATLAB**

PERSONAL PROJECTS — *View Portfolio*

Golang DBMS ↗

- Developing a relational database management system (DBMS) from scratch using **Golang**
- Implementing B-tree indexing for efficient and atomic operations, fault-tolerant data persistence, concurrent transactions, and optimized SQL query processing

Snapwitter ↗

- Developed a full-stack Twitter clone using **React.js**, **Next.js**, **TypeScript**, and **Tailwind CSS**
- Constructed 10+ endpoints using **Prisma** and **MongoDB**, using cache invalidation strategies for various lightweight and efficient CRUD operations

Formula 1 Dashboard ↗

- Built an F1 analytics dashboard using **React.js** and **SCSS** displaying live race data, team statistics, and schedule
- Implemented robust data retrieval and processing mechanisms from both **REST** and **GraphQL APIs**, using react-router and context to seamlessly load page data and to minimize redundant endpoint calls