

# Muhammad Sohail

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## EDUCATION

### McGill University

Sep 2020 – Dec 2024

Bachelor of Science in Honours Computer Science | 4.0 / 4.0 GPA

Montreal, Quebec

- Dean's List (top 10%) 2020-2023. Coursework in Database Systems, Distributed Systems, Operating Systems, Artificial Intelligence, Compiler Design, and Probability/Statistics
- Development Coordinator at McHacks 11

## EXPERIENCE

### Autodesk

May 2024 – Aug 2024

Software Engineering Intern

Montreal, Quebec

- Refactored database services to leverage **DynamoDB** APIs, leading to a **50%** reduction in CRUD operation latencies
- Enriched cache performance metrics using **StatsD** and **Prometheus**, leading to increased visibility on system behaviour and bolstering service reliability.

### McGill University

Sep 2023 – Dec 2023

Undergraduate Researcher | Publication Pending

Montreal, Quebec

- Refined an automated static analysis tool in **Java** to allow users to identify conventions in test suites
- Utilized multi-threading to reduce executions times by **10-50%** (about **100 hours**) across the codebase

### Autodesk

May 2023 – Aug 2023

Software Engineering Intern

Montreal, Quebec

- Remodeled application load tests with **Scala**, **Gatling**, and **BlazeMeter** to drastically improve concurrency and throughput, leading to a **10x** gain in performance
- Coordinated and orchestrated a multi-team effort to seamlessly upgrade our internal data platform's Spring Boot framework, supporting stability and security
- Employed **Prometheus/Thanos**, **Grafana**, and **Kibana**, to pull and visualize key application metrics, increasing observability and allowing developers and stakeholders to monitor trends
- Leveraged **Apigee** proxy policies to introduce a tracing identifier across multiple services, allowing application logs to be unified across various observability tools and reducing developer overhead by **80%**

### Coveo

Jan 2023 – Apr 2023

Data Engineering Intern

Montreal, Quebec

- Designed and developed a data monitoring system with **Snowflake**, **SQL**, and **Prefect** to ensure data quality and accuracy across multiple critical data sources and pipelines
- Revamped notification system using **Sentry**, **Python**, and **Terraform** to proactively identify and address data quality issues, reducing time to resolution by **30%**
- Promoted a culture of testing and storage/cost efficiency by implementing data purges and unit tests using **dbt**, ensuring data quality on high volume pipelines (over **150M** events daily)

### Pattern/Borderless AI


May 2022 – Aug 2022

Software Engineering Intern

Toronto, Ontario

- Completely automated resource syncing with third-party APIs using AWS Lambdas, leading to **20+** hours saved daily

## PROJECTS

**Wrappedify**  | **SvelteKit**, **Express**, **D3.js**, **Redis**, **BullMQ**

- Developed a full-stack listening analysis service with Spotify's Web API, built with **SvelteKit** and **Express**
- Ensured a user-friendly UX by using **BullMQ** and **Redis** for an asynchronous data processing architecture

**Unix Shell, Thread Scheduling Library, FUSE File System**  | **C**, **Docker**, **FUSE**, **pthread**s

- Wrote simple implementations of various OS services as a part of class projects. Used **FUSE** to create a mountable user-level file system and **pthread**s to build a user-level thread scheduler

## TECHNICAL SKILLS

**Languages:** Python, Java, C/C++, SQL, JavaScript/TypeScript, Rust, Scala, Bash

**Frameworks:** React, Node, Express, dbt, Prefect, Django, Spring Boot, SvelteKit

**Technologies:** Git, Unix, Terraform, AWS, Docker, Snowflake, Jenkins, Postman