

# Mohammad Qudah

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## EDUCATION

### York University

*B.SC. Computer Science with Honours*

Toronto, ON, Canada

Sep. 2020 – May 2025

## EXPERIENCE

### Sun Life Financial

Aug. 2023 – Dec. 2023

#### *Software Engineer Intern*

*Toronto, ON, Canada*

- Implemented a **microservice pipeline**, processing **10,000+** files daily using **Apache Kafka** for distributed event streaming, cutting latency by **15%** and boosting throughput via optimized **JSON** parsing and parallel processing
- Developed **Kafka Streams** applications in **Java** to transform and route real-time events within the pipeline, increasing **JUnit** coverage by **25%** and enhancing reliability for internal tools used by over **5,000** employees
- Collaborated in **Agile Sprints** to redesign **MongoDB** schemas and implement compound indexes for nested document structures, decreasing query latency by **32%** and improving storage and retrieval of **100,000+** messages

### eWorx Technology

Jan. 2023 – Aug. 2023

#### *Software Developer*

*Remote*

- Led a server-side refactor within a **Scrum** team, migrating a **Django API** to **FastAPI**, implementing async request handling to manage concurrent requests, achieving a **36%** reduction in average response latency
- Optimized **CRUD** operations using **MongoDB** query projection and targeted schema improvements for high-traffic collections, increasing data retrieval speed by roughly **30%** and refining backend maintainability
- Refactored **React** components into modular units to support a more scalable and maintainable codebase
- Contributed to **CI/CD pipeline** updates by automating builds with **Jenkins**, containerizing services using **Docker** and managing version control with **Git**, reducing deployment errors across staging and production

### AIMS

May 2022 – Dec. 2022

#### *Software Developer Intern*

*Remote*

- Streamlined employee data **CRUD** operations by refactoring **Spring Boot** service logic and applying index strategies in **MySQL**, reducing **API** response latency by **22%** through faster relational data retrieval
- Developed a **React-based** document preview feature with rotation and zooming capabilities, streamlining HR document processing operations by **20%** and cutting paper consumption by over **15%** through digital adoption
- Deployed unit tests using **JUnit** along with **Mockito** to validate service logic and **REST API** behavior through dependency mocking and assertion chaining, increasing test coverage by **28%** while mitigating regression risk

## PROJECTS

### GrantBridge | REACT, TYPESCRIPT, NODE.JS, EXPRESS.JS, PERPLEXITY API, AWS

- Built a full-stack grant search platform using **React**, **TypeScript** and **Express** to simplify funding opportunities
- Integrated the **Perplexity Sonar API** into a **RESTful backend**, implementing modular **Express** routes with runtime **JSON** schema validation to power **LLM-driven** grant-matching logic and structured response handling
- Released to production with **AWS Lambda**, enabling **50+** users to discover scholarships and funding opportunities through a serverless deployment, eliminating manual server handling and scaling automatically with user demand

### Collaborative Canvas | GO, GORILLA WEBSOCKET, REACT, REDIS, DOCKER, GCP

- Implemented a concurrent **WebSocket** server in **Go** with **Gorilla WebSocket** to stream real-time chat and canvas events using **mutex-protected** connection maps and a centralized broadcast channel, enabling state sync
- Integrated **Redis** with **TTL** to store **WebSocket** actions, restoring shared event history upon client reconnection
- Engineered an interactive whiteboard interface in **React** and **TypeScript**, including live user count tracking
- Containerized backend with **Docker** and deployed to **Google Cloud Run**; automated **CI/CD** with **GitHub Actions**, as well as frontend hosted on **Firebase** for low-latency global delivery

## TECHNICAL SKILLS

**Concepts/Architecture:** Microservices, Event-Driven Systems, CI/CD, RESTful APIs, Async I/O, WebSockets

**Languages:** Java, Python, Go, TypeScript, JavaScript, HTML, CSS

**Frameworks/Libraries:** React, Spring Boot, Node.js, Django, FastAPI, JUnit, Mockito

**DevOps/Tools:** Git, Apache Kafka, Docker, GCP, AWS, Postman, Firebase, Jenkins

**Databases:** MongoDB, MySQL, SQL, Redis