

# Shaaf Shahzad

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## EDUCATION

### Bachelor of Engineering (B.Eng), Computer Engineering

Sep. 2022 – May 2027

Toronto Metropolitan University

Toronto, ON

**Relevant Coursework:** Data Structures and Algorithms, Object Oriented Programming, Software Systems

## PROJECTS

### DeepEnd | TypeScript, Next.js, Firebase, OpenAI API

Dec. 2023 – Mar. 2024

- Developed a **winning** project-based learning platform for aspiring software developers, securing **first place** at the McMasterU **Google Solutions Challenge**.
- Redesigned API routes for project generation by utilizing server-side **REST API** routes on Vercel with the OpenAI API, resulting in a **70%** increase in client-server interaction efficiency.
- Integrated Firebase for seamless authentication and data storage, reducing data retrieval implementation times in the codebase by **50%**, and ensuring a secure and reliable user experience.

### GeographyGauntlet | TypeScript, Next.js, PostgreSQL, tRPC

May 2024 - June 2024

- Launched an advanced web platform for geography enthusiasts, featuring interactive games such as Gauntlet, Country Quiz, and Flag Quiz to enhance geographical knowledge.
- Optimized database retrieval times using Drizzle ORM with a **PostgreSQL** database deployed on Vercel, achieving an **84%** increase in response times and ensuring efficient data handling.
- Designed a **scalable** architecture using tRPC and a dynamic question management system, enabling effortless addition of new quiz content through database and codebase updates.

### Project 4.0 | TypeScript, Next.js, Firebase, OpenAI API

Jan. 2024 – Mar. 2024

- Engineered a web platform using TypeScript and Next.js with **GPT-4** to provide comprehensive support tools for **students**, including weekly course summaries, task optimization, and grade calculators.
- Implemented seamless authentication and data management with Firebase, enhancing the platform with **automated** course outline analysis and concise weekly topic summaries through OpenAI API integration.
- Devised a productivity-boosting **algorithm** that synchronizes with Google Calendar to allocate task work times around users' schedules, boosting task completion rates by **30%**.

### Canadian Health Statistics Analysis | C, Python, TensorFlow, Pandas

Mar. 2023 - Apr. 2023

- Analyzed a dataset of **30,000+** health records using C to compute statistical averages across various categories, focusing on diabetes prevalence from **2015 to 2022**.
- Preprocessed data with **Python** and **Pandas** for cleaning, encoding, and standardization for model training.
- Developed a robust prediction model using **TensorFlow**, achieving an accuracy variation of **2%** in forecasting future diabetes trends based on historical data.

## EXPERIENCE

### Islamic Relief Canada

Sep. 2019 – June 2023

Nationwide Donor Relations Volunteer

Burlington, ON

- Coordinated **nationwide** monthly mail distribution, ensuring timely delivery and enhancing donor **engagement**
- Streamlined data entry by removing redundancies, reducing return mail and donor database by **20%**
- Optimized mailer process, resulting in **higher** donor interaction and engagement during major campaigns

### Make-A-Wish Foundation Canada

Sep. 2019 – June 2022

Foundation Leader and Chief Coordinator

Hamilton, ON

- Raised **\$4,000** through social media-driven events, exceeding goals by **57%** with digital marketing
- Led a team of **20+** volunteers, ensuring seamless event execution through strategic planning and coordination
- Efficiently managed budgets, ensuring cost-effectiveness for over **15 events** across Hamilton

## TECHNICAL SKILLS

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

**Frameworks:** React, Next.js, React Native, Express, tRPC, Tailwind CSS, FastAPI, Prisma, TensorFlow

**Developer Tools:** Git, Visual Studio, VS Code, NetBeans, Firebase, AWS, Docker, Google Cloud Platform, Azure

**Databases:** MySQL, MongoDB, PostgreSQL