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 | Source Code   **TypeScript | Next.js | Firebase | OpenAI API**
- 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 | Source Code   **TypeScript | Next.js | PostgreSQL**
- Built a web platform utilizing TypeScript and Next.js, featuring interactive geography games with optimized data retrieval and dynamic content management.
- 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 and a dynamic question management system, enabling effortless addition of new quiz content through database and codebase updates.

Project 4.0 | Source Code   **TypeScript | Next.js | Firebase | OpenAI API**
- 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 | Source Code   **C | Python | TensorFlow | Pandas**
- 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