Muhammad Zaheer Hashmi

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Skills

Languages: C, C++, JavaScript/Typescript, Python, SQL, C#
Frameworks/Libraries: NumPy, Pandas, Sci-Kit Learn, Matplotlib, Flask, PyTorch, PyTest, Bootstrap
Databases: MySQL, SQLite, PostgreSQL
Technologies: Git, Docker, NodeJS, HTML, CSS

Education

University of Toronto, BASc in Computer Engineering — June 2024

- **Coursework:** Data Structures and Algorithms, Operating System, Software Engineering, Computer Networks I, Introduction to Artificial Intelligence, Introduction to Applied Deep Learning, Introduction to Databases, Introduction to Machine Learning

Experience

Database Engineer, CANSSI Ontario – Toronto, ON — Jun 2023 – Aug 2023

- Designed and developed a FileMaker-based application tailored to enter, and analyze data related to CANSSI Ontario's operations, events, and programs
- Collected raw data from Eventbrite and restructured it in MS EXCEL
- Implemented the Crow's Foot diagram technique in FileMaker for database normalization, ensuring efficient data organization and relational integrity
- Justified design decisions and solutions recommendations to users

Projects

MergeSharp

A comprehensive open source library implementing Conflict-free Replicated Data Types (CRDTs) for distributed systems, enabling conflict-free data synchronization and real-time collaboration across decentralized applications

Tools Used: Git, .NET, C#

- Designed and developed test cases using the xnit testing framework for both functionality and performance
- Led the research and development of the data structures, implementing unit tests and core functionalities using .NET

UofTMeets

A web application for event creation, management, and communication for university students and clubs

Tools Used: Flask, Python, SQLAlchemy, PostgreSQL, Bootstrap, CSS

- Specified user and system level requirements utilizing the agile development methodology
- Developed the front and back end for events search and filtering using Flask, SQLAlchemy and Jinja2

Diabetic Retinopathy Detector

A convoluted neural network designed to detect diabetic retinopathy from eye fundus images

Tools Used: Pandas, PyTorch, Python

- Developed functions for pre-processing image data by utilizing data augmentation features from Pytorch

Operating System

A systems calls API (Application Programming Interface) implemented in C from scratch

Tools Used: C, GIT, Linux

- Developed system calls for a UNIX style OS