Mian Rafay

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GitHub: https://github.com/MianR1 | **Personal Website**: https://mianr1.github.io/

Professional Summary

- **75+ hours** of volunteering experience with the Toronto District School Board.
- Experience in web development by developing a personal website using basic web technologies.
- Years of experience in OOP through group/personal projects.
- Proficiency in **optimizing**, **testing**, and **debugging** code in various languages.
- **SQL** knowledge through databases courses, learning to **create**, **optimize** and **modify** databases.
- Experience working on projects with others in hackathons such as HackTheNorth and Major League Hacking.

Education

McMaster University | Hamilton, ON *Expected Graduation, May 2025*

- BASc, Honours Computer Science (Co-op)
- Deans' Honour List

Scarborough Academy for Technological, Environmental and Computer Studies | Toronto, ON *2017- 2021*

- Ontario Secondary School Diploma
- Ontario Scholar

Udemy | Remote *2020*

- Web Development Bootcamp

Skills

- Python, C#, C, C++, Java, JavaScript, HTML, CSS, SQL, .NET
- GitHub, Microsoft Applications, Visual Studio, PyCharm, IntelliJ, Multimedia Logic, AutoCAD, Arduino, MobaXterm, Terminal, DBeaver
- G2 Driver's License

Experience

Home-Based tutor | Toronto, ON *2019 – 2022*

- Posted ads online and taught students from grades 9-12 in mathematics and computer science.
- Python, C#, Calculus and Vectors, Linear Algebra, and Advanced Functions

Hack The North Contestant | Remote *2021*

- Designed and presented a custom-made password encryption program done using C++
- Program Stores encrypted passwords on an SQL database.

Ontario Tech University | Oshawa, ON *2019*

- Worked in **groups of 4** to design and program an NXT robot which qualified for the school team.
- The **team leader** of the robotics team and robotics competition finalist at the **tournament** held at the Ontario Tech University, competing against participants present from schools throughout Toronto.

Scarborough Association for Mathematics Education | Toronto, ON *2017*

- Selected representative from the school to participate in the Scarborough Math Olympics Contest after achieving the highest grade throughout the school on the 2017 Waterloo Math Test.

Projects

Personal website | HTML, CSS, JavaScript

- Personal website designed with eye catching framework including all things in one's portfolio to show to a company's hiring manager.
- Showcases all personal projects, skills, objectives and detailed animations for aesthetic purposes.

Connect 4 | Java

- Implementation of a connect 4 game which is played by 2 AI players, 2 human players or an AI vs a human player.
- AI coded with algorithms to decide the best possible move increasing chances of winning.
- Uses of encapsulation, inheritance, and abstraction within relevant classes.

Matrix Calculator | C++

- Computes addition, subtraction, and multiplication with different order matrices specified by the user.
- Uses 2d arrays and distinct algorithms taught in linear algebra courses to go about each operation.

User Password authenticator | C#

- Checks the password syntax of user input to authenticate the password in a professional manner.
- Stores all previous passwords given by user on a separate .txt file.

Functions Intersection calculator| Python

- The program calculates the intersection point of the two functions provided by the user within a certain interval using algebraic laws.

Relevent Courses

COMPSCI 2XC3 | Computer Science Practice and Experience

- Implementation of computational solutions to practical problems that combine algorithmic design and analysis with software design principles.
- Attended labs with groupmates to complete given tasks in a timely manner, working in simulated workplace environments.
- Tested programs to identify speed constraints, bugs, and errors by reverse engineering existing code.
- Upgraded programs to work faster and more efficiently at minimal time complexities.

COMPSCI 2DB3 | databases

- Implemented databases, Data modelling, integrity constraints, principles, and design of relational databases.
- Formulated SQL databases through a university server given specific instructions.
- Developed an understanding of query processing, transactions, concurrency control, recovery, and data storage.

COMPSCI 2ME3 | Software Development

- Completed individual and collaborative assessments with teams of 4-5 individuals in a timely manner.
- Completed tasks involving Classes and inheritance, class invariants, interface specifications; object-oriented design patterns; exception handling; tools for interface documentation, testing, program analysis; requirements documentation; quality attributes; development models.

COMPSCI 2C03 | Data Structures and Algorithms

- Implemented Data Structures and Algorithms using Java.
- Completed tasks using stacks, queues, hash tables, and binary trees.
- Worked with Mergesort, Heapsort, Quicksort, Shellsort, Time Complexity, Minimum spanning trees, traversals, shortest paths.

DATASCI 2G03 | Scientific Computing

- Performed hands-on scientific programming using C/C++ under Linux/Unix/Windows.
- Implemented algorithms, numerical methods, program development and programming in a modern high-level language.