





# MIAN RAFAY

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## PROFESSIONAL SUMMARY

A **creative, divergent** thinking **Software Engineer intern** with extensive expertise within **different** coding **languages**. Proceeding to my **seventh year** of passionate, robust coding involving the **creation** of **high-quality programs**. Holding the potent ability to effectively deliver and assist valuable solutions and developments to a hiring company. Prepared to **think outside** the **box** and strengthen the software community by **quickly** catching on and **adapting** to **new forms** of **intelligence** and the **latest technologies**. Demonstrated experience and interest by developing my **personal website** and many personal/collaborative projects. Currently pursuing an **Honors Computer Science** degree at **McMaster University**.

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## SKILLS

PROGRAMMING LANGUAGES: **Python, C#, C, C++, Java, JavaScript, HTML, CSS, SQL, PowerShell**

TECHNOLOGIES: **Word, PowerPoint, Excel, React.js, AutoCAD, Arduino, Windows, MobaXterm**

SOFT SKILLS: **Critical Thinker, Problem Solver, Attentive Learner, Collaborative, Expeditious, Detail Oriented**

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## EXTRACURRICULAR

HACK THE NORTH CONTESTANT {PASSWORD ENCRYPTER DATABASE} | **2021**

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

ONTARIO TECH UNIVERSITY ROBOTICS COMPETITION FINALIST | **2019**

**Designed** and **programmed** an **NXT** robot which qualified for the school team and competed at the **Ontario Tech University** for the robotics **competition**. Through **teamwork** and **hard work**, our team achieved a position in the **finals**.

SCARBOROUGH MATH OLYMPICS CONTESTANT | **2017**

**Selected** male **representative** from the school to participate in the **Math Olympics** after **achieving** the **highest grade** on the **Waterloo Math Contest**.

ED APP HACK | **2016**

Built a **prototype** of a **phone app** related to health and showcased it to **judges** at the event.

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## PROJECTS

MATRIX CALCULATOR | **C++**

Computes **addition**, **subtraction**, and **multiplication** with **different order matrices** specified by the user.

FUNCTIONS INTERSECTION CALCULATOR | **PYTHON**

Given two **functions** by the **user** as **input**, this program **calculates** the **intersection** point of the **two functions** within a certain interval.

USER PASSWORD AUTHENTICATOR | **C#**

**Checks** password **syntax** of **user** input to **authenticate** the **password** while **storing** all previous **passwords** on a **file**.

MEMORY GAME | **C#**

**Randomly generates** cards with letters faced down and you must **match** all **pairs**.

PERSONAL WEBSITE | **HTML, CSS, JS**

Personal website **designed** with **eye catching** framework including all things in one's portfolio to show to a company's hiring manager. Showcases all my **personal projects**, **skills**, and **objectives**.

## EXPERIENCE

### HOME-BASED TUTOR | 2019 – PRESENT

Tutoring students from grades 8 - 12 in [mathematics](#) and [computer science](#).

Languages: [Python](#) and [C/C++](#).

Mathematics: [Calculus and Vectors](#), [Linear Algebra](#), and Advanced [Functions](#)

### ELECTIONS CANADA INFORMATION OFFICER | 2021

[Directed](#) individuals to the voting [sites](#) and [answered questions](#) regarding elections.

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## EDUCATION

### BASc, HONOURS COMPUTER SCIENCE (CO-OP) | SEPT 2021 – PRESENT

[MCMaster University](#)

**Deans' Honour List**

**GPA:** 10.6/12

### ONTARIO SECONDARY SCHOOL DIPLOMA (OSSD) | 2021

[SATEC @ WA PORTER CI](#)

**Ontario Scholar**

### WEB DEVELOPMENT BOOTCAMP | 2020

[UDEMY](#)

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## RELEVANT COURSES

### DATASCI 2G03

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](#).

### COMPSCI 2C03

Implemented [Data Structures](#) and [Algorithms](#) using [Java](#). Made projects/assignments using [stacks](#), [queues](#), [hash tables](#), and [binary trees](#). [Searching](#) and [sorting](#); [Mergesort](#), [Quicksort](#), [Shellsort](#), [Time Complexity](#), [Minimum spanning trees](#), [traversals](#), [shortest paths](#).

### COMPSCI 2ME3

Completed individual and [collaborative](#) assessments with [teams](#) of [4-5 individuals](#). Worked with [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 2GA3

Accomplished tasks involving but not limited to [logic gates](#), [computer arithmetic](#), instruction-set architecture, [assembly programming](#), translation of high-level languages into [assembly](#). Computer system organization: [data-path and control](#), [pipelining](#), [memory hierarchies](#), [I/O systems](#); measures of performance.

### COMPSCI 1JC3

Experimented with functional programming language, Haskell. Used [recursion](#), [pattern matching](#) and worked with [custom data types](#). Developed [critical thinking](#) skills through a wide range of [complex logic](#) problems.

### COMPSCI 1MD3

Worked with [object-oriented](#) programming concepts in [Python](#). Familiarity with [SQL](#) databases, [YAML](#) files, and [JSON](#) files. Developed [problem solving](#) skills through series of problem questions involving [algorithms](#).

### COMPSCI 1XD3

Implemented [design patterns](#) and learned [design techniques](#). Used elm and took part in [team assignments](#) to complete tasks in a [timely manner](#).