

Yuvraj Singh Sandhu

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TECHNICAL SKILLS

Languages: Java, Python, JavaScript, HTML, CSS, C, SQL, Haskell, Elm, Bash

Developer Tools: VS Code, Git, DBeaver, Vim

Programming Experience

CS 2C03 – Data Structures and Algorithms

Sept, 2022 – Dec, 2022

McMaster University

- Used basic data structure: **Stacks, Queues, Hash tables** and **Binary trees**
- Acquired knowledge of different **searching** and **sorting algorithms**

CS 2ME3 – Introduction to Software Development

Sept, 2022 – Dec, 2022

McMaster University

- Used different object-oriented design patterns and design principles
- Programming in Java with classes, inheritance, exception handling, testing, program analysis

CS 1XC3 – Development Basics

Jan, 2022 – Apr, 2022

McMaster University

- Acquiring familiarity with **UNIX**-like systems
- Programming in **C**, with documentation, testing, benchmarking, profiling and debugging
- Shell** interaction and programming, pipes and filters

CS 1MD3 – Introduction to Programming

Sept, 2021 – Dec, 2021

McMaster University

- Worked with programs using **SQL databases**, **YAML** files, and **JSON** files using Python
- Used **object-oriented programming** concepts (OOP) to lessen redundant code and reuse more code

EDUCATION

McMaster University, Current: 3.79 GPA

Hamilton, ON

B.A.Sc. Computer Science Co-op, Minor in Math

Sept, 2021 – May, 2025

- Deans' Honor List
- Received Faculty of Engineering Achievement Award

PROJECTS

Jungle Math | Elm

Jan, 2022 – Apr, 2022

- Developed an app which teaches students the concepts of Perimeter, Area, Angles.
- Developed an adventure game in the app which gives feedback to the students on the progress of their learning.

Among Us | Elm

Mar, 2022

- Created a single player among us like game using Elm.
- Implemented the clear leaves and swipe card task from Among us.

Connect-4 | Java

Oct, 2022

- Developed a game using **object-oriented** programming concepts using Java.
- Developed an **AI** that can play a winning move and even block a winning move if available
- Highlights the object-oriented principles of **encapsulation**, **inheritance** and **polymorphism**

Konnec 4 (Connect 4-like Game) | Python, YAML

Dec, 2021

- Developed a python program which lets to players play Connect 4 through the command line
- Used **classes** for the game pieces and board so that the user can make new objects themselves
- Used exception handling to ensure the program does not crash from wrong outputs

Hospital Management System | Python, MySQL

Jan, 2021 – May, 2021

- Developed a program which collects information about the staff, patients in a hospital and stores them in SQL
- Used interface of Python with an SQL database