CONNOR USATY

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[LinkedIn](#) | [Portfolio](#) | [GitHub](#)

Education

McMaster University   **Sep. 2021 - Apr. 2025**
Bachelor of Engineering, Computer Engineering (Co-op)   *Hamilton, Ontario*

- **GPA:** 3.64/4.00
- **Relevant Coursework:** C++, C, Python, Data Structures and Algorithms, Object-Oriented Programming, Linear Algebra, Multi-variable Calculus (Calc I, II, & III), Probability and Statistics, Circuit Design and Analysis, Logic Design

Skills

Languages: C++, C, Python, JavaScript, HTML, CSS
Libraries/Frameworks: Flask, Selenium, React.JS, Node.JS, Express.JS
Other: VS Code, Eclipse, PyCharm, Git, GitHub

Projects

Pathfinding Algorithm Visualizer (React.JS, JavaScript, HTML, CSS) | [Website](#) | [GitHub](#)
- Created an interactive visualization tool for common pathfinding algorithms using the React.JS framework.
- Increased user engagement through adjustable animation speeds, and real-time maze generation algorithms.
- Implemented A* Search, Dijkstra's, Breadth-First Search, and Depth-First Search pathfinding algorithms.
- Features three different heuristic's for A* Search, and a full intructions menu with visual examples.

Polynomial Calculator (C++) | [GitHub](#)
- Developed custom Poly and PolyNode classes in C++ ensuring proper object-oriented programming practices to efficiently store the polynomial object and it's individual terms as nodes in a singly linked list data structure.
- Implemented various arithmetic operations such as the addition, multiplication, and evaluation of polynomials.
- Improved algorithmic efficiency and performance by analyzing the asymptotic run time and space complexity.

YouTube to MP3 Converter (Node.JS, Express.JS, JavaScript, HTML, CSS) | [Video Demo](#) | [GitHub](#)
- Developed a server-side application using Node.JS and Express.JS to handle HTTP requests and responses.
- Implemented error handling mechanisms that displayed appropriate error messages to the user interface.
- Utilized a RESTful API to make GET requests to a third-party API endpoint for data retrieval.

Sudoku Game and Solver (Python) | [Video Demo](#) | [GitHub](#)
- Developed a Sudoku game with an interactive GUI in Python using the PyGame library.
- Implemented a solver which utilizes a recursive backtracking algorithm to find a solution to any solvable game.
- Utilized object-oriented programming principles to develop custom classes for the board and the individual squares.

Work Experience

Edge Group   **May 2022 - Aug. 2022**
Assistant Project Coordinator   *Vaughan, Ontario*

- Oversaw 5+ job sites across Ontario as the sole on-site company representative.
- Collaborated closely with Project Managers as a key member of the Project Management Team.
- Contributed to the development and implementation of project plans while adhering to tight deadlines.
- Developed and maintained official start-up and closing documentation for job sites, ensuring compliance with regulations.

Goldfish Swim School   **Sep. 2019 - Mar. 2020**
Lifeguard and Swim Instructor   *Oakville, Ontario*

- Supervised and coached the school's competitive swim team, Swim Force.
- Maintained a safe swimming environment while monitoring 50+ swimmers and quickly responding to any emergencies.
- Designed and implemented customized swim lesson curriculum's that resulted in a 98% pass rate for my students.

Awards

Deans' Honour List   **2021 - 2022 & 2022 - 2023**
Awarded to students with a GPA of 9.5 or higher on McMaster's 12-point scale   *McMaster University*

- Received this award in both my first and second years of study at McMaster University.