Connor Usaty

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Education

McMaster University   **Sep. 2021 - Present**
B. Eng, Computer Engineering (Co-op)   Hamilton, Ontario
- **CGPA:** 10.4/12.0
- **Golden Key International Honour Society:** Top 15% of all students in program
- **Deans' Honour List:** 2022/2023 (GPA: 11.0/12.0), 2021/2022 (GPA: 9.6/12.0)
- **Relevant Coursework:** Logic Design, Electronic Devices & Circuits, Circuits & Waves, Signals & Systems, Data Structures & Algorithms, Object-Oriented Programming, Software Development, Advanced Probability & Statistics

Projects

Pacemaker (Python, PyQt5, SQLite3, MATLAB, Simulink) | GitHub
- Developed a DCM GUI in Python using PyQt5 that interfaces with an SQLite3 database, to provide a robust and user-friendly interface for the Pacemaker system.
- Implemented stable serial communication between the DCM GUI and the Simulink stateflows on the hardware device, guaranteeing reliable data transfer and system performance.
- Incorporated secure password hashing techniques to protect user data and enhance system security.
- Ensured proper test coverage for the safety-critical embedded system, demonstrating commitment to quality and safety.

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 visual examples for A* Search, Dijkstra's, Breadth-First Search, and Depth-First Search algorithms.

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.

Extracurricular

McMaster Artificial Intelligence Society   **Sep. 2023 - Present**
Director of Education   McMaster University
- Managed the Education Team of the McMaster Artificial Intelligence Society.
- Spearheaded the development and presentation of AI/ML workshops to educate students on a variety of topics such as supervised learning, neural networks, and computer vision, and technologies such as Keras, Tensorflow, and Pandas.

Work Experience

Edge Group   **May 2022 - Aug. 2022**
Assistant Project Coordinator   Vaughan, Ontario
- Oversaw multiple job sites across Ontario while being 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.

Technical Skills

Programming Languages: Python, C++, C, Verilog, MATLAB, JavaScript, HTML, CSS
Libraries / Frameworks: PyQt5, SQLite3, Keras, Tensorflow, NumPy, Pandas, React.JS, Node.JS, Express.JS
Other: Git, GitHub, LTSpice, PSpice, Microsoft Office