Connor Usaty

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Education

McMaster University **Sep. 2021 - Present**
B. Eng - Computer Engineering (Co-op) Hamilton, Ontario

- **Golden Key Distinction (Top 15%)** - CGPA: 3.8/4.0
- **Relevant Coursework:** Algorithm Design & Analysis, Data Structures & Algorithms, Software Development, Principles of Programming, Microprocessor Systems, Advanced Probability & Random Processes, Engineering Economics

Work Experience

MHI RJ Aviation **May 2024 - Present**
Business Intelligence Analyst Mississauga, Ontario

- Led the development of a suite of Batch and Python scripts that utilize Tkinter, Polars, and xlsxwriter to automate a large daily data extraction and processing pipeline, resulting in a more robust system and a 73% reduction in runtime.
- Developed a web application in Python that utilizes Dash, Plotly, Polars, and Tailwind to process and dynamically visualize sales and backlog data from an SQL database for a multi-million dollar warehouse relocation project.
- Fine-tuned a time series sales forecasting model using XGBoost in Python resulting in an 18% lower RMSE.
- Utilized PowerBI to transform and display sales data resulting in automatically-refreshing, maintenance-free dashboards.

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

- Utilized project management tools such as Excel and SharePoint to develop and share Gantt charts.
- Developed and maintained official start-up and closing documentation for job sites, ensuring compliance with regulations.

Projects

Pathfinding Algorithm Visualizer (React.JS, JavaScript, Tailwind) | Website | GitHub

- Developed an interactive visualization tool for common pathfinding algorithms using the React.JS framework.
- Implemented visual examples for A* Search, Dijkstra's, Breadth-First Search, and Depth-First Search algorithms.

3D Spatial Mapping Embedded System (Python, C) | Report | GitHub

- Utilized I2C serial communication to send API calls and receive precise measurement data from a ToF LiDAR sensor.
- Developed a Python script that utilizes PySerial and Open3D to receive, process, and visualize measurement data from the microcontroller resulting in an accurate 3D reconstruction of the scanned area.

Pacemaker Embedded System (Python, SQLite3, MATLAB, Simulink) | GitHub

- Developed a DCM GUI in Python using PyQt5 that interfaces with an SQLite3 database.
- Implemented UART stable serial communication between the GUI and the Simulink stateflows of the embedded system.
- Ensured proper test coverage for the safety-critical embedded system, demonstrating commitment to quality and safety.

Extracurricular

McMaster Artificial Intelligence Society **May 2024 - Present**
President McMaster University

- Selected by the previous Co-Presidents and MacAI Executive Team to lead the organization.

McMaster Artificial Intelligence Society **Sep. 2023 - Apr. 2024**
Director of Education McMaster University

- Led the Education Team comprised of 7 undergrad and 2 graduate students.
- 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.
- Developed CNN and neural network demos in Jupyter Notebook using TensorFlow, Keras, sklearn, and matplotlib to further attendees understanding of concepts such as data preprocessing, model validation, and model fine-tuning.

Technical Skills

Languages: Python, MySQL, C++, Java, JavaScript, HTML, CSS
Libraries: Polars, Pandas, NumPy, TensorFlow, Keras, sklearn, Dash, React.JS, Tailwind
Other: Git, GitHub, Jupyter Notebook, VS Code, PowerBI, Excel