# Connor Usaty

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## Education

**McMaster University** **Sep. 2021 - Present**
B. Eng - Computer Engineering (Co-op), Minor in Statistics 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, Advanced Probability & Random Processes, Probability & Stats for Engineers, Engineering Economics

## Work Experience

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

- Developed a web application in Python using Dash, Plotly, Polars, and Tailwind that elegantly and dynamically visualizes sales and backlog data for a multi-million dollar warehouse relocation project.
- Automated daily data extraction and processing tasks by developing scripts in Python using Polars and xlsxwriter.
- 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 on 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

**Pacemaker Embedded System (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 UART stable serial communication between the DCM GUI and the Simulink stateflows of the embedded system, 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, Tailwind, 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.

## 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 of 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, Plotly, matplotlib, Dash, React.JS, Tailwind
**Other:** Git, GitHub, Jupyter Notebook, VS Code, PowerBI, Excel