WILLIAM GLAZER-CAVANAGH

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EDUCATION

University of Montréal - Professional Masters in Machine Learning [link] September 2022 - December 2023
Accepted in the MILA program - 4.0 / 4.3 GPA *Montreal, Quebec*

Course Work: Data Science, Advanced Algorithms, Reinforcement Learning, Deep Learning, Machine Learning.

Polytechnique Montréal - Bachelor in Software Engineering [link] September 2017 - May 2022
Artificial Intelligence & Data Science - 3.4 / 4.0 GPA *Montreal, Quebec*

Capstone project: Created a platform for automatic article generation of news articles for the journal Le Devoir using OpenAI's GPT-3. Lead an exhaustive requirements review to explore ethical concerns and veracity of the generated content.

WORK EXPERIENCE

Intact - Intact Lab [link] May 2022 - August 2022
Data Science Intern *Montreal, Quebec*

Optimization and evaluation of call center processes across Canada.
Python, LightGBM, SimPy, Pandas, NumPy, PowerBI, SQL, MatPlotLib

- Increased yearly call center sales by an estimated 200K$ by implementing employee management strategies in production. Reviewed impacts with various stakeholders by using our custom discrete event simulator.
- Detected production issues by developing dashboards, ETL pipelines and A/B tests to monitor our models.
- Found and fixed anomalies in our tree-based model by analyzing features and their impact on predictions.

Croesus - Research & Development [link] May 2021 - August 2021
Research Intern, Artificial Intelligence *Montreal, Quebec*

Natural language processing (NLP) research project to automatically explain stock price history from news articles.
Docker, Python, Flask, Argo WorkFlows, PyTorch

- Autonomously identified avenues of research by assessing the state of the art in knowledge injection with knowledge graphs for NLP algorithms. Discussed interesting findings with principal researcher to establish a research agenda.
- Improved generated text's ROUGE score by 5% by integrating two recently published NLP algorithms to our ML pipeline.
- Increased experience reproducibility and speed by 15% by refactoring and re-designing the algorithm evaluation pipeline.

Merck - Quantitative Sciences & Business Intelligence [link] January 2021 - May 2021
Data Engineer Intern *Montreal, Quebec*

Development of Merck Canada's internal ETL (extract, transform, load) processes for Business Intelligence.
Python, AWS (S3/Glue/Lambda), Pandas, SQL, Seaborn

- Produced first insights on GARDASIL-9 HPV vaccine's by leading a market opportunity analysis. This project is currently being used to power a canada-wide marketing and awareness campaign against HPV.
- Automated Merck Canada's manual ETL workloads and reduced delays by two days on average with data ingestion.

PROJECTS & PUBLICATIONS

IVADO - Deep Learning Essentials [link] December 2019 - February 2020
Scientific Assistant *Montreal, Quebec*

Proofread content on the IVADO/MILA online Deep Learning class covering: CNNs, GANs and RNNs

Polytechnique Montreal - MCIS Lab [link] May 2019 - September 2019
Research Intern *Montreal, Quebec*

Analyzed GitHub repositories to extract insights on best practices for open source Machine Learning models from a software engineering standpoint. The paper *Towards a Change Taxonomy for ML Systems* [link] was accepted at EMSE [link].

PROGRAMMING SKILLS

Languages: Python, C/C++, Java, JavaScript, Julia
Backend: Node.JS, Express.JS, Flask
Others: GIT, AWS, Linux, Bash, LaTeX, Docker
Data Handling: SQL/NoSQL, Pandas
Machine Learning: Scikit-Learn, PyTorch, NumPy
Data Visualization: PowerBI, MatPlotLib, Seaborne, D3.JS