JEREMY FRIESEN

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EDUCATION

Bachelor of Computer Science, Artificial Intelligence and Machine Learning Stream Honours
Carleton University, Ottawa, ON — September 2022 - Present

- Third year standing, CGPA 10.11/12 (letter grade of B+)
- Major CGPA 10.22/12 (letter grade of B+)
- Honorary member of the Dean's honour list for academic excellence for 2022-2023
- Awarded the Harry S. Southam in-course scholarship valued at 2,000$ for 2022-2024
- Expected Graduation Date: May 2027

AVAILABILITY

Available for 4 or 8 months beginning January 2025

WORK EXPERIENCE

Data Scientist for Complex Systems — May 2024 - August 2024
National Research Council of Canada, Ottawa, ON

- Worked in the **Artificial Intelligence for Logistics** Program and **Digital Technologies** and Research Centre, focusing on transportation and warehousing, infrastructure and goods condition, and AI-powered modeling
- Conducted thorough analysis of sensor and historical datasets, comprising geospatial, tabular and specification data files, providing insightful input and clarity among file structures
- Leveraged **Python** libraries (**GeoPandas**, **Pandas**, **Matplotlib**, **NumPy**, **Seaborn**, and more) to create comprehensive annotations, visualizations, optimizations, and trend analyses, demonstrating strong technical and critical thinking capabilities
- Demonstrated strong interpersonal skills by effectively communicating and presenting comprehensive data analyses to team members and supervisors

APPLIED PROJECTS

Ottawa Snow Day Predictor (using Random Forest A.I. model) — October 2023 - January 2024

- Used **CSV** historical data from Greater Ottawa Region to create and train a random forest classifier that can help predict future school closures for snowstorms (or snow days)
- Developed an **HTML** website with an **SQLite** database and server with admin capabilities to help store previous data and predictions, showcasing technical expertise
- Implemented **Flask API** to integrate the trained **Random Forest A.I. model** and deployed app using **Docker Compose**, showcasing multifaceted approach

Multi-threaded Ghost Hunter Simulation — November - December 2023

- Developed in a team as a pair programmer, where threads can navigate and concurrently interact with each other using linked list structures, enhancing teamwork and technical skills
- Implemented in **C**, using **pthreads** showcasing a deep understanding of concurrent programming, thread synchronization, and memory management in a low-level programming context.
- Coordinated version control for project using **Git** and **GitHub**, utilizing written and verbal communication skills

Current Weather and Snow Day Predictor — October - December 2023

- Developed a single-page weather application using an external **API**, coupled with **HTML** pages rendered using **PUG** and **CSS** which includes an **SQLite** database and an **Express** server demonstrating technical versatility and problem-solving abilities
- Containerized the application using **Docker**, illustrating thought towards user deployment and experience
- Created the **SQLite** database to store users (guest or admin) and to record feedback provided by guest users, showing proficiency in database management and attention to user engagement

Statsbomb DBMS — March - April 2024

- Developed a Database Management System in **PostgreSQL** for the Open-Source Statsbomb repository to store and query historical **JSON** football data, utilizing **Normalization Theory** techniques, **Entity-Relationship** diagrams and **Schema** diagrams to correctly store all attributes across tables
- Developed loaders in **Python** using the **Psycopg** library to efficiently load **JSON** data into the **PostgreSQL** Database and created efficient **SQL** queries, demonstrating strong technical knowledge

EXTRA-CURRICULAR ACTIVITIES AND CERTIFICATIONS

Security Clearances
NRC Reliability Status — April 3rd, 2024 - April 3rd, 2034

- Received Reliability Status with NRC valid until 2034

Hackathons
InnovateNow! — October 2nd - October 3rd, 2023

- Demonstrated capable technical and communication skills by placing 3rd at InnovateNow! team competition
- Collaborated with team members to appropriately develop and pitch a successful project idea to panel following guidelines and regulations to competition, showing attention to detail

Certifications
HackerRank Certifications — November 2nd - December 2nd, 2023

- Certified by HackerRank for basic understanding of Java, Python and JavaScript languages, showcasing an established foundation and awareness of multiple languages

Machine Learning Courses — October 22nd, 2023

- Completed Intro to Machine Learning and Intermediate Machine Learning courses by Kaggle, serving as an early stepping stone to the integration of A.I. in future projects

Clubs
cuHacking — July 2024

- Member of Carleton University's Hackathon Development Team, demonstrating a strong interest in exploring the field of study beyond the classroom