

Avery Doiron

CONTACT

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SUMMARY

Computer Science Honours student specializing in hockey analytics, with hands-on experience building data pipelines and statistical models for player and team evaluation. Creator of Analytics With Avery, a public hockey analytics platform combining custom models and visualizations into automated player evaluations. Strong programming and statistical foundations with a deep, self-driven interest in hockey tactics, performance indicators, and player evaluation, and looking to contribute to a professional hockey operations department.

EDUCATION

St. Francis Xavier University

Antigonish, NS, Sep. 2023 – Apr. 2027 (Expected)

Bachelor of Science, Honours in Computer Science, Minor in Mathematics, Computing Concentration

GPA: 3.9/4.0 | Major GPA: 4.0/4.0

Relevant Coursework

Artificial Intelligence

Advanced Data Structures

Data Science

Natural Language Processing

Database Management Systems

Statistical Methods

Evolutionary Computation

Sports Analytics

Linear Algebra

Algorithm Design and Analysis

Honours and Awards

Dean's List

2025 & 2026

In-Course Scholarship (\$1,000 CAD)

2024, 2025, & 2026

Alley Heaps Undergraduate Research Award (\$9,250 CAD)

2026

EXPERIENCE

Undergraduate Research Intern

St. Francis Xavier University

Antigonish, NS, Apr. 2026 – Aug. 2026

- Conducted research under the supervision of Dr. Milton King and Dr. Kyran Cupido on the relationship between NHL personnel interview language and on-ice performance to identify non-traditional indicators for player evaluation and team strategy
- Built a data pipeline to scrape, clean, and label 5,000+ interview transcripts, linking each to speaker identity, interview timing, game results, and player statistics
- Applied transformer-based sentiment and emotion models to quantify linguistic features from interview data
- Evaluated relationships between linguistic features and performance outcomes using statistical hypothesis testing
- Visualized sentiment trends, embedding-based clusters, and outlier interviews to communicate findings

Junior Technical Analyst

SEASI

Remote, May. 2024 – Jun. 2024 & May. 2025 – Aug. 2025

- Managed Microsoft Dynamics CRM data for 100+ consultant profiles and built dashboards that improved reporting workflows
- Designed backend database infrastructure on Microsoft Azure; earned Microsoft Azure Fundamentals (AZ-900) certification
- Contributed to backend system design and implementation for the company website and an AI chatbot
- Customized 50+ consultant proposals to align with federal RFP requirements, contributing to multiple successful contract awards
- Supported testing, documentation, and implementation of cloud-based IT tools

PROJECTS

NHL Player and Team Evaluation Cards

Jan. 2025 – Present

- Built an automated pipeline to scrape, clean, and structure multi-season NHL player and team data using BeautifulSoup and Pandas
- Trained a gradient-boosted expected goals (xG) model with Scikit-learn to quantify shot quality (5v5 AUC: 0.779 on 1.3M+ shots), feeding all downstream player and team statistics
- Built a regularized adjusted plus-minus (RAPM) model using cross-validated ridge regression on sparse matrices (SciPy) to isolate individual player impact from teammates, opponents, and game context
- Converted RAPM output into Wins Above Replacement (WAR) via a fitted goals-to-wins conversion and data-derived replacement-level thresholds
- Automated generation of 12,300+ player cards and 500+ team cards across 17 seasons using Matplotlib and PIL

NHL Schedule Optimization Genetic Algorithm

Sep. 2025 – Dec. 2025

- Designed a genetic algorithm in Python to generate optimized NHL schedules under real-world league constraints, originating as a final project for Evolutionary Computation and worked on beyond the course
- Engineered a multi-objective fitness function balancing rest/game-day spacing, home/away streak fairness, and travel distance for a full 1,344-game (84-game-per-team) season
- Built custom genetic operators (order crossover, three mutation types) and adaptive selection pressure that shifts crossover/mutation rates after generational stagnation — improving fitness ~2,000x over 10,000 generations
- Validated configuration choices with an 800-run hyperparameter sensitivity study using Gaussian KDE distribution analysis
- Built visualizations (convergence plots, team/league calendar views) and presented findings in a 40-minute talk

TECHNICAL SKILLS

Programming Languages

Python, R, SQL, Java, JavaScript, HTML, CSS

Libraries/Frameworks

Pandas, NumPy, SciPy, Scikit-learn, SQLite, BeautifulSoup, Matplotlib, Plotly, PyTorch, Hugging Face

Tools & Platforms

Git/GitHub, Visual Studio Code, PyCharm, RStudio, Jupyter Notebook, Microsoft Office