Amy Bell

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Hello, I'm Amy! I have a passion for programming and data, which drives me to create both beautiful and insightful data visualizations. As a data scientist, I love predictive modeling and find it exciting to uncover patterns in data. My work is fueled by the excitement of finding innovative solutions and making data accessible and actionable.

Work Experience:

Canadian Tire Financial Services

Data Scientist - Sports Analytics Jan 2020-May 2020 (co-op), May 2023-present

- Innovated podium probability methodologies by integrating Bayesian statistics into Monte Carlo simulations, increasing prediction accuracy 10%
- Created web scrapers using Selenium and BeautifulSoup in Python to automate data collection from sports results websites to make original datasets used in various projects.
- Developed predictive machine learning models using gradient boosted trees in Python to help Swimming Canada identify junior athletes who have future medal potential as senior athletes.
- Utilized regression splines in SAS to predict winning swimming times at major competitions for every discipline, achieving predictions within 1.5% of actual results at the 2023 World Championships.
- Collaborated with National Sports Organizations (NSOs) to create informative Tableau dashboards to enhance coaching strategies and give insight into competition.
- Constructed a logistic regression model to develop Podium Pathways, comparing performance of Canadian athletes to the performance of previous medal winning athletes, enabling Canadian NSOs to assess the medal potential of current athletes.

Data Scientist - Provisional Modelling Nov 2022-May 2023

- Updated and debugged the Expected Credit Loss (ECL) model in SAS and created financial monthly ECL reports, vital for banking operations.
- Initiated the transition of monthly Excel reports to automated Tableau dashboards, enhancing reporting efficiency and accuracy.

Archmillhouse Inc

SQL Database Developer May 2021 - Jan 2022 (co-op), May 2022-Nov 2022

- Optimized and automated the creation of engineering materials listing by developing a C# program which saved engineers hours on each project.
- Developed a sales forecasting dashboard using advanced SQL queries to predict workload peaks to enable strategic hiring, reducing late shipments of projects by 15%
- Created an inventory age dashboard to track the longevity of inventory items, promoting the use of older stock to minimize waste, optimize inventory space, and reduce costs

Skills:

Technical:
Data Analysis • Predictive Modeling • Statistical Analysis • Regression Techniques • Web Scraping • Git • Data Collection • Sports Performance Analytics • Monte Carlo Simulations

Programming Languages:
Python • R • C# • Java • SQL • SAS

Software:
Tableau • Power BI • Telerik Reporting • Microsoft Excel • ERP Software • Azure • Google Cloud

Education:

BSc - Mathematics and statistics co-op
Mcmaster University, Hamilton, ON, CA
2017-2022

Misc Achievements:

Cycling (Road and Track)
4x Canadian National Champion
12x National Medals
13x Ontario Provincial Champion
24x Ontario Provincial Medals
2023 Elite Provincial road race champion

Other
1x powerlifting competition win
13x mountains summited
100% Stardew Valley completion

Current Side Projects:

Personal site development using Hugo

Studying Statistical Rethinking - Richard McElreath, Bayesian methods

Deep Learning Specialization Course - Andrew Ng