Jordan Bell

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Data Scientist

Experienced Data Scientist with a Master of Science in Mathematics, specializing in geospatial and time series data analysis and operational SQL data pipeline development. Exceptional at producing top-quality visualizations, descriptive statistics, supervised learning predictive models, unsupervised learning cluster models, and time series analysis and forecasting. Solid command line and systems administration experience.

Key Skills

Documentation and Testing | SQL Data Pipeline Development | Information Systems Data Modeling | Time Series Analysis | Geospatial Data Analysis | Text Data Analytics | Discrete Optimization | Feature Engineering

Languages

SQL (Hive, Impala, Spark, BigQuery, Oracle Database) | Python | SAS | JavaScript | HTML, CSS, Markdown, Liquid, LaTeX | CLI for HDFS, Amazon S3, Google Cloud Storage, Azure Cloud Storage | Expert Linux Bash/CLI for robust advanced text processing (sed/awk), document conversion (Pandoc), and image manipulation (Gnuplot, ImageMagick, Ghostscript, FFmpeg)

Software

Excel/Google Sheets, KNIME (and other data analysis suites), QGIS/ArcGIS, OBS Studio (video screen capture), SSH, Docker

Platforms

Git (CLI and SourceTree) | Atlassian Bitbucket, Confluence, and Jira | Google BigQuery | Google Analytics | Amazon S3 | Microsoft Azure | Databricks Spark | Cloudera Hive and Impala

Python Libraries Working Experience

NumPy | pandas | PySpark | Dask | Matplotlib | Seaborn | Graphviz | Pydantic and erdantic for entity relationship diagrams (ERDs) | re, spaCy, NLTK, Gensim, sklearn.preprocessing, sklearn.feature_extraction.text (text processing and analysis) | automata-lib | sklearn.linear_model (linear and logistic regression) | ArviZ, PyMC3 and Theano (Bayesian parametric estimation) | TensorFlow Keras (image classification, text generation, time series analysis) | statsmodels.tsa, pmdarima, sktime (time series analysis) | scipy.optimize, scipy.spatial | GeoPandas, Rasterio, xarray, h3, Cartopy (vector and raster geospatial data) |

Pyomo and PuLP (constrained mixed integer programming MIP optimization) | SymPy (symbolic mathematics)

Professional Experience

Canadian Tire, Toronto. Data Science Associate, June 2022 - August 2023

- Blended pure data science methods with business insights to satisfy stakeholders and gain traction for these solutions, while adhering to high standards of statistical rigor.
- Configuration using PuLP and Pyomo for optimization model for product placement on shelves according to constraints and badness rules.
- Developed store similarity metrics to answer questions like “What stores are most similar to mine in folding chair sales?”, or generally “What stores are most similar to mine?”.
- Initiated building a pipeline from Google Analytics for page views of products, for potential use with store similarity metrics.
- Built a data pipeline and dashboard for measuring store participation in Canadian Tire deals using SQL. Designed a table, handling a complex situation of deals, normalizing durations, and calculating the number of participating stores. Created a robust and productionizable SQL query to populate a table, which can be run periodically and analyzed as a database table in a dashboard.
- Collaborated using Bitbucket, Jira, Confluence, and Microsoft Teams for projects and communications.

Consilium Crypto, Toronto. Data Science Intern, January 2019 - April 2019

- Loaded, cleaned and feature engineer time series blockchain and exchange data for cryptocurrency pairs
- Built and tested predictive models for price and volume using logistic regression in scikit-learn.

Selected Self-Directed Projects

USCG NAIS Data Project, Toronto, 2018 - Present

- Utilized AIS data to estimate shipping activity such as the number of port visits by vessels in the US in 2022.
- Created visualizations showing positions and flows of movement, and compared data with governmental organizations.

Additional Experience

Jordan Bell Tutoring, Toronto. Mathematics Tutor, January 2021 - June 2022

University of Toronto, Toronto. Mathematics Course Instructor, April 2013 - April 2017

- Mentored students, developed syllabus, delivered lectures, graded work. Developed communication skills to discuss technical materials with non-technical students.

Education

Graduate Certificate, Analytics for Business Decision Making (SAS based program), George Brown College, Toronto

Master of Science, Department of Mathematics, University of Toronto, Toronto

Bachelor of Mathematics, Mathematics, Carleton University, Ottawa. University Medal in Mathematics

Selected Online Courses

edX Verified Certificate for Automata Theory. CSX0005: Automata Theory

Practical Time Series Analysis, by SUNY

Snowflake. Hands On Essentials - Data Engineering

Data Science with Databricks for Data Analysts by Databricks

Modern Big Data Analysis with SQL by Cloudera

Microsoft Azure Data Fundamentals DP-900 Exam Prep by Microsoft

AWS Fundamentals by Amazon Web Services

Google Data Analytics Certificate

Open Source Software Development, Linux and Git Specialization, by The Linux Foundation

Version Control with Git by Atlassian

Google IT Support Professional Certificate

Palo Alto Networks Cybersecurity by Palo Alto Networks

Selected Publications

Bell, Jordan and Blåsjö, Viktor, Pietro Mengoli's 1650 Proof that the Harmonic Series Diverges, Mathematics Magazine, 2018. 2019 recipient of Carl B. Allendoerfer Award for expository mathematical writing, Mathematical Association of America (MAA)

Bell, Jordan, Estimates for the Norms of Products of Sines and Cosines, Journal of Mathematical Analysis, 2013

Bell, Jordan, Cyclotomic Orthomorphisms of Finite Fields, Discrete Applied Mathematics, 2013

Andrews, George E., and Bell, Jordan, Euler's Pentagonal Number Theorem and the Rogers-Fine Identity, Annals of Combinatorics, 2012