# 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](https://github.com/jordanbell2357/uscg-nais-data), 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

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

### Jordan Bell Tutoring, Toronto

**Mathematics Tutor, January 2021 - June 2022**

### University of Toronto, Toronto

**Mathematics Course Instructor, April 2013 - April 2017**

## Education

* **Graduate Certificate**, Analytics for Business Decision Making (SAS based program), George Brown College, Toronto, 2019
* **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](https://courses.edx.org/certificates/4ad76d04e8fc418ab10daed7c7904299)
* [Practical Time Series Analysis, by SUNY](https://www.coursera.org/account/accomplishments/certificate/JF3E2ZYX7W4V)
* [Snowflake. Hands On Essentials - Data Engineering](https://www.credly.com/badges/76265419-c89e-4089-9dd1-1fb19cfc6271/linked_in_profile)
* [Data Science with Databricks for Data Analysts by Databricks](https://coursera.org/verify/specialization/42R9P8ZCMWJ6)
* [Modern Big Data Analysis with SQL by Cloudera](https://coursera.org/share/758c31b0eca67317d378432811a49eae)
* [Microsoft Azure Data Fundamentals DP-900 Exam Prep by Microsoft](https://coursera.org/share/3a9b0b2b40a9cbe9f257ca1000ea0271)
* [AWS Fundamentals by Amazon Web Services](https://coursera.org/share/add6daea4dd38b3d06e02647736c9481)
* [Google Data Analytics Certificate](https://www.credly.com/badges/edcdba60-5676-4202-91d0-aec1247fe104/linked_in_profile)
* [Open Source Software Development, Linux and Git Specialization, by The Linux Foundation](https://www.credly.com/badges/3ca0eef0-4775-4a38-bae5-c500e12a35cc/linked_in_profile)
* [Version Control with Git by Atlassian](https://coursera.org/share/6e44368590fe12674aa1f8e172719698)
* [Google IT Support Professional Certificate](https://coursera.org/share/ec054a74b0af3665bc1921683fcb1c55)
* [Palo Alto Networks Cybersecurity by Palo Alto Networks](https://coursera.org/share/2b4286e1772f2fd32fa89be409440459)

## Selected Publications

* Bell, Jordan and Blåsjö, Viktor, [Pietro Mengoli’s 1650 Proof that the Harmonic Series Diverges](https://doi.org/10.1080/0025570X.2018.1506656), Mathematics Magazine, 2018. 2019 recipient of [Carl B. Allendoerfer Award for expository mathematical writing](https://www.maa.org/programs-and-communities/member-communities/maa-awards/writing-awards/carl-b-allendoerfer-awards), Mathematical Association of America (MAA)
* Bell, Jordan, [Estimates for the Norms of Products of Sines and Cosines](https://doi.org/10.1016/j.jmaa.2013.04.010), Journal of Mathematical Analysis, 2013
* Bell, Jordan, [Cyclotomic Orthomorphisms of Finite Fields](https://doi.org/10.1016/j.dam.2012.08.013), Discrete Applied Mathematics, 2013
* Andrews, George E., and Bell, Jordan, [Euler’s Pentagonal Number Theorem and the Rogers-Fine Identity](https://doi.org/10.1007/s00026-012-0139-4), Annals of Combinatorics, 2012