## Jordan Bell

[jordan.bell@gmail.com](mailto:jordan.bell@gmail.com) | [LinkedIn](https://linkedin.com/in/jordanbell2357) | [GitHub](https://github.com/jordanbell2357) | [Website](http://jordanbell.info) | [Credly](https://www.credly.com/users/jordanbell2357/badges) | Toronto, Ontario | 416-528-3258

## 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, and time series analysis and forecasting. Solid command line and systems administration experience.

### Key Skills

* Data cleaning and engineering
* SQL data pipeline development
* Data modeling
* ETL
* Classical time series analysis (SARIMAX)
* Feature engineering for time series machine learning
* Geospatial analysis
* Data documentation and stewardship
* Technical training (developing and delivering)

### Professional Experience

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

* Blended pure data science methods with business insights to satisfy stakeholders.
* Developed store similarity metrics.
* Initiated a pipeline from Google Analytics.
* Built a data pipeline and dashboard for store participation in deals using SQL.

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

* Loaded, cleaned, and engineered features for time series data on cryptocurrency.
* Built and tested predictive models for price and volume.

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

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

* Mentored students and developed course materials.

### 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

### Languages

* SQL (MySQL, PostgreSQL, Hive, Spark, BigQuery, Oracle, Teradata)
* NoSQL (Redis, MongoDB)
* Python
* Bash scripting and CLI tools (awk and sed for text processing with regex, gnuplot for data plotting, ImageMagick for image manipulation, ffmpeg for video editing, GDAL for GIS transformation)
* R, SAS, Excel, PowerBI DAX and Power Query M
* Automata theory and regular expressions, relational algebra.

### Software and Platforms

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| --- | --- |
| Software | Platforms |
| Hitachi Pentaho | Amazon S3 |
| Talend | Microsoft Azure |
| KNIME | Google Cloud Platform |
| PowerBI | Databricks |
| Tableau | Cloudera |
| MicroStrategy | Teradata |
| ArcGIS, Mapbox, CARTO | Oracle |
| Excel, Google Sheets | Elasticsearch |
| git, SSH, PGP | Datadog |
| Docker | Redis |
| VMware, Virtualbox | Google Analytics |
| Microsoft Teams | Atlassian Bitbucket, Confluence, Jira |
|  | H2O |

### Python Libraries Working Experience

* **Data manipulation**: NumPy, pandas, PySpark, Dask, imageio, librosa
* **Data modeling**: SQLAlchemy, Pydantic, erdantic
* **Visualization**: Matplotlib, Seaborn, Graphviz
* **Regression, classification and clustering**: sklearn, scipy.spatial
* **Deep learning**: Keras, TensorFlow, PyTorch
* **Time series analysis**: statsmodels.tsa, sktime, pmdarima, tsfresh, scipy.signal, scipy.fft
* **Text processing**: re, sklearn.preprocessing, sklearn.feature\_extraction, automata-lib, spaCy, NLTK, Gensim
* **Geospatial data**: GeoPandas, Rasterio, xarray, h3, Cartopy
* **Bayesian estimation**: ArviZ, PyMC3,
* **Numerical mathematics**: scipy.integrate, scipy.optimize, Theano
* **Symbolic mathematics**: SymPy

### Selected Personal Projects

[**USCG NAIS Data Project**](https://github.com/jordanbell2357/uscg-nais-data)

* Analyzed AIS data to estimate shipping activity.
* Created visualizations for maritime traffic data.
* 1-minute frequency AIS message data for 2022 for all vessels in US coastal and inland waters (2.9 billion entries)
* Feature engineering for sessionizing vessel activity

[**Canada 2021 Census by Forward Sortation Areas**](https://github.com/jordanbell2357/canada-2021-census)

* Conducted clustering and regression analyses on census data.

### Selected Online Courses

* [Teradata - Intro to Advanced SQL Engine 17.10](https://www.credly.com/earner/earned/badge/100a7cd0-8356-4442-b991-0abc20307537)
* [Datadog Fundamentals I](https://www.credly.com/earner/earned/badge/41003b6f-fdb9-456b-a97d-6b9972147175)
* [Talend Data Fabric Explorer](https://www.credly.com/earner/earned/badge/7a0e8e9b-6984-4973-a6a6-3acd028d0532)
* [Containers & Kubernetes Essentials by IBM](https://www.credly.com/earner/earned/badge/4242d25d-435d-4a3e-8114-0b8c059aa7f4)
* [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)

### Selected Publications

Bell, Jordan, and Viktor Blåsjö. “Pietro Mengoli’s 1650 Proof that the Harmonic Series Diverges.” Mathematics Magazine 91, no. 5 (2018): 341–47. <https://doi.org/10.1080/0025570X.2018.1506656>. 2019 recipient of [Carl B. Allendoerfer Award](https://www.maa.org/programs-and-communities/member-communities/maa-awards/writing-awards/carl-b-allendoerfer-awards), MAA

Andrews, George E., and Bell, Jordan. “Euler’s Pentagonal Number Theorem and the Rogers-Fine Identity.” Annals of Combinatorics 16 (2012): 411–420. <https://doi.org/10.1007/s00026-012-0139-4>

Bell, Jordan. “A Summary of Euler’s Work on the Pentagonal Number Theorem.” Archive for History of Exact Sciences 64, no. 3 (2010): 301–73. <https://doi.org/10.1007/s00407-010-0057-y>

Bell, Jordan, and Brett Stevens. “A Survey of Known Results and Research Areas for *n*-Queens.” Discrete Mathematics 309, no. 1 (2009): 1–31. <https://doi.org/10.1016/j.disc.2007.12.043> (Cited by 250+ publications.)