Jordan Bell

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jordanbell2357 • jordanbell2357 • jordanbell2357 • Credly Profile

Business Intelligence Developer

Experienced Business Intelligence Developer with a Master of Science in Mathematics, specializing in data pipeline development and geospatial and time series data analysis. Exceptional at bringing order to disorganized data assets, producing top-quality business intelligence dashboards, creating/evaluating/deploying machine learning models, and with technical communication and documentation.

Key Skills

Data Cleaning and Engineering: Proficient in data cleaning and engineering, ensuring data quality and integrity.

SQL Pipeline Development: Experienced in developing efficient SQL data pipelines for complex data processing.

Database Administration: Expertise in database design, administration, data documentation, and stewardship.

ETL Processes: Adept at designing and executing ETL processes for data transformation and integration.

Business Intelligence Dashboards: Skilled in creating insightful business intelligence dashboards for data-driven decision-making.

Machine Learning: Proficient in applying machine learning techniques for predictive modeling and data analysis.

Time Series Analysis: Specialized in classical time series analysis, including ARIMA and related methods.

Geospatial Analysis: Expert in conducting comprehensive geospatial data analyses.

Linux Systems Administration: Competent in Linux systems administration, managing and optimizing system performance.

Computer Networking: Knowledgeable in computer networking, ensuring robust and secure network infrastructures.

IT Support: Experienced in providing effective IT support and troubleshooting.

Technical Training: Skilled in developing and delivering technical training programs, enhancing team capabilities.

Professional Experience

Donor Compass **Toronto, Ontario, Canada (Remote)**
Business Intelligence Developer *November 2023–February 2024*

- Facilitated secure data transfers with clients, focusing on optimizing data fields and filters for enhanced processing efficiency.
- Pioneered the transformation of raw data into actionable insights using advanced data manipulation and engineering techniques.
- Innovated and maintained PowerBI dashboards, integrating client data with scoring algorithms to illustrate donor propensity.
- Led the modernization of data sharing infrastructure from traditional VPN and Samba sharing to Citrix ShareFile, significantly improving security and accessibility.
- Transitioned the legacy scoring engine to a virtual machine environment, managing configurations for PHP, Redis, MySQL, and Liquibase.
- Overhauled client data management systems, establishing systematic databases and assuming the role of database administrator.
- Employed Python and pandas for efficient data cleaning, complementing and enhancing SQL-based data processes.
- Utilized PostgreSQL for robust database management, handling large-scale datasets with a focus on accuracy and speed.
- Proactively addressed and resolved VPN and network-related issues, ensuring smooth and uninterrupted operations.
- Left a strong impact in a short tenure before the company's insolvency; received commendation from manager, available for reference.

Canadian Tire **Toronto**
Data Science Associate *June 2022–August 2023*

- Developed store similarity metrics comparing store sales at any level of aggregation of product.
- Participated in planning and creating pipeline for Google Analytics page view data into OLAP database, for store similarity calculations
- Orchestrated the integration of geospatial census data and Environics data, linking regional characteristics to surrounding Canadian Tire stores by postal code to inform strategic business decisions.
- Developed a robust and dynamic OLAP database table view to produce a dashboard for monitoring dealer participation in promotional deals. This involved complex windowing functions and time span standardization using step functions for variable deal lengths, facilitating real-time and historical analysis.

Consilium Crypto **Toronto**
Data Science Intern *January 2019–April 2019*

- Engineered a novel approach to feature engineering for time series data, integrating price and volume data from multiple cryptocurrency exchanges with blockchain transaction data to enhance predictive model robustness.
- Designed and tested a logistic regression model to analyze Ethereum data, identifying key indicators that influence price and volume movements.
- Utilized domain knowledge to select significant time periods revered by the trading community, which informed the feature engineering process and enriched the model's predictive power.

Jordan Bell Tutoring **Toronto**
Mathematics Tutor *January 2021–June 2022*

Toronto Elite Tutorial Services **Toronto**
Mathematics Tutor *March 2018–January 2021*

University of Toronto **Toronto**
Mathematics Course Instructor *April 2013–April 2017*

- Mentored students and developed course materials.
- Organized teaching assistant duties, time allocation, and preparation of materials for use in tutorials.
- Instructor for multivariable calculus, ordinary differential equations, and linear algebra courses, as single instructor and as part of multiple section courses (first and second year courses with versions for different programs).

University of Toronto **Toronto**
Mathematics Teaching Assistant *September 2009 - April 2013*

- 1st year courses: Calculus for engineers, computer science, biology, and math specialists (separate courses), and linear algebra for engineers and computer science. 2nd year courses: Mathematical writing (essay marking), linear programming, ordinary differential equations for computer science and for math specialists (separate courses). 3rd year courses: Complex analysis, functional analysis, group theory, partial differential equations, dynamical systems. 4th year courses: Nonlinear optimization

Education

Analytics for Business Decision Making (SAS based program) **George Brown College**
Graduate Certificate, Toronto *2018–2019*

Department of Mathematics **University of Toronto**
Ph.D. candidate in mathematics: Candidacy Achieved 2011, Withdrawn 2016, Toronto *2009–2017*
Canada Graduate Scholarships, Doctoral (CGS D)

Department of Mathematics **University of Toronto**
Master of Science, Toronto *2007–2009*
Canada Graduate Scholarships, Master's (CGS M)

Mathematics **Carleton University**
Bachelor of Mathematics, Ottawa *2003–2007*
University Medal in Mathematics

Languages

SQL: MySQL, PostgreSQL, Hive, SparkSQL, Google BigQuery, Oracle, Teradata

NoSQL: Redis, MongoDB

Python: Python programming language

Scripting: Bash scripting and CLI tools such as awk, sed, gnuplot, ImageMagick, ffmpeg, GDAL

Statistical & Data Analysis: R, SAS, Excel, PowerBI DAX and Power Query M

Theoretical: Automata theory and regular expressions, relational algebra

Software and Platforms

Software	Platforms
Hitachi Pentaho	Amazon S3
Talend	Microsoft Azure
Dataiku, KNIME	Google Cloud Platform
PowerBI, Tableau, MicroStrategy	Databricks
Excel, Google Sheets	Hadoop HDFS
ArcGIS, Mapbox, CARTO	Cloudera
Linux shell scripting	Teradata
git, SSH, PGP	Oracle
Docker	Redis
VMware, Virtualbox	Datadog, Elasticsearch, Splunk
Lucidchart, Oracle SQL Developer	Google Analytics
Microsoft Teams, SharePoint	Atlassian Bitbucket, Confluence, Jira
Cisco Packet Tracer, Nmap, Wireshark	Citrix ShareFile

Python Libraries Working Experience

Data Manipulation: NumPy, pandas, PySpark, Dask, imageio, librosa

Data Modeling: Pydantic, erdantic, SQLAlchemy

Visualization: Matplotlib, Seaborn, Graphviz

Regression, Classification, & 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.
- Processed 1-minute frequency AIS message data for 2022 for all vessels in US coastal and inland waters (2.9 billion entries).
- Conducted 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

Datadog: Fundamentals I

Talend: Data Fabric Explorer

IBM: Containers & Kubernetes Essentials

Cloudera: Modern Big Data Analysis with SQL

Microsoft: Azure Data Fundamentals DP-900 Exam Prep

AWS: Fundamentals by Amazon Web Services

Google: Data Analytics Certificate

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

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 the Carl B. Allendoerfer Award, 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.