Jordan Bell

416-528-3258 • jordan.bell@gmail.com • jordanbell.info
jordanbell2357 • jordanbell2357 • jordanbell2357 • Credly Profile

Education

Analytics for Business Decision Making — **George Brown College**
Graduate Certificate, Toronto — *2018–2019*

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

Publications

Andrews, George E., and Jordan Bell. "Euler's Pentagonal Number Theorem and the Rogers-Fine Identity." Annals of Combinatorics 16, no. 3 (2012): 411–20. https://doi.org/10.1007/s00026-012-0139-4. Zbl 1256.05018

Bell, Jordan. "A New Method for Constructing Nonlinear Modular n-Queens Solutions." Ars Combinatoria 78 (2006): 151–55. Zbl 1164.05327

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. Zbl 1208.01013

Bell, Jordan. "Cyclotomic Orthomorphisms of Finite Fields." Discrete Applied Mathematics 161, no. 1–2 (2013): 294–300. https://doi.org/10.1016/j.dam.2012.08.013. Zbl 1364.11155

Bell, Jordan. "Estimates for the Norms of Products of Sines and Cosines." Journal of Mathematical Analysis and Applications 405, no. 2 (2013): 530–45. https://doi.org/10.1016/j.jmaa.2013.04.010. Zbl 1311.11098

Bell, Jordan. "Nonlinear Modular Latin Queen Squares." Utilitas Mathematica 74 (2007): 71–75. Zbl 1170.05015.

Bell, Jordan. "Polynomial Modular n-Queens Solutions." Acta Arithmetica 129, no. 4 (2007): 335–39. https://doi.org/10.4064/aa129-4-4. Zbl 1140.11057

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. https://zbmath.org/?q=an%3A140 2019 recipient of Carl B. Allendoerfer Award for expository mathematical writing, Mathematical Association of America (MAA)

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. Zbl 1228.05002

Bell, Jordan, and Brett Stevens. "Constructing Orthogonal Pandiagonal Latin Squares and Panmagic Squares from Modular n-Queens Solutions." Journal of Combinatorial Designs 15, no. 3 (2007): 221–34. https://doi.org/10.1002/jcd.20143. Zbl 1117.05016. Cited by 250+ publications.

Bell, Jordan, and Brett Stevens. "Results for the n-Queens Problem on the Möbius Board." The Australasian Journal of Combinatorics 42 (2008): 21–34. Zbl 1175.05027

Bell, Jordan, and Qiang Wang. "Results on Permutations with Distinct Difference Property." Contributions to Discrete Mathematics 4, no. 1 (2009): 107–11. Zbl 1203.05002

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