

# Jessica Campbell

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## Data Analyst

Recent astronomy graduate with experience in data-driven problem-solving using Python and SQL with a strong background in mathematics passionate about advancing my skills as a data analyst. Lead several independent data projects that involved data management and cleaning, statistical and regression analysis, and visualization using a variety of large complex data sets. Demonstrated ability to communicate technical results to non-technical audiences in professional settings, having won \$15,000 in government funding and 3 conference presentation prizes.

## DATA PROJECTS

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### Transportation Analytics Using SQL ([astrosica.github.io/transportation-analytics](https://astrosica.github.io/transportation-analytics)) Oct. 2023

- Analyzed 2023-2022 subway delay data published by the TTC using SQL in MySQL Workbench.
- Performed data quality assurance and cleaned data inefficiencies to ensure data integrity and accuracy.
- Quantified delay statistics for all subway stations and lines, highlighting those responsible for the most delays.
- Determined the most common cause of delays, peak delay times, and whether delays show improvement.
- Provided key recommendations for improving future delays.

## WORK EXPERIENCE

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### University of Toronto Jan. 2016 – Jun. 2023 *Graduate Researcher* Toronto, ON

- Performed data collection, cleaning, and joining for >10 large data sets of ~250,000 stars using SQL.
- Developed analytical techniques to statistically classify stars, increasing young star identification by 80%.
- Fit multivariate models of star emission data, discovering 87 new young stars for future study.
- Identified trends between stellar colour and dust emission using regression analysis.
- Communicated results at 7 professional conferences and taught tutorials for 17 courses.
- Won \$15,000 in government funding for written grant proposal and 3 prizes for best conference poster.

### University of Toronto May – Aug. 2016 *Undergraduate Researcher* ([github.com/astrosica/W3-DIT](https://github.com/astrosica/W3-DIT)) Toronto, ON

- Designed and built an automated Python pipeline that performs data management, cleaning, and calibration for ~1,500 telescope images.

## EDUCATION

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### University of Toronto Jun., 2023 *PhD, Astronomy & Astrophysics* Toronto, ON

### University of Toronto Jun., 2016 *BSc (Honours), Astronomy & Physics* Toronto, ON

## SKILLS

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- **Certificates:** The Complete Oracle SQL Certification,
- **Skills:** Python (NumPy, SciPy, Matplotlib); SQL; Bash; HTML\*; Microsoft Excel (PivotTable, VLOOKUP); Git\*/GitHub; data cleaning, analysis, and visualization; regression analysis; written communication; oral communication (\*some experience)