CALVIN CHAN

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TECHNICAL SKILLS

Programming Languages: Python, R, SQL, Bash
Libraries: NumPy, Pandas, SciPy, Spotipy, StatsModel, Scikit-Learn, Keras, TensorFlow, PyTorch, NLTK
Data Visualizations: Matplotlib, Seaborn, Plotly, Tableau
Version Control: Git, GitHub
Big Data: Apache Spark, Hive, Hadoop, AWS

EDUCATION

BrainStation | Diploma Candidate, Data Science — **Current**

BrainStation | Professional Certificate, Data Analytics — **2023**

University of Toronto | Honours Bachelor of Science, Physics & Astrophysics and Psychology — **2017 - 2023**

PROJECTS

Shopify & BrainStation | Hackathon — **April 2024**

Participated in a 24-hour hackathon organized by BrainStation and Shopify, resulting in the development of a solution aimed at reducing customer support inquiries, thereby enabling merchants to focus on business growth.

- Implemented a data-driven solution utilizing comprehensive secondary research on customer experience and opportunities for improving cost-efficiency.
- Collaborated closely with UX designers and software developers to create a self-service third party app allowing customers to make order modifications without needing direct contact with the merchant.

BrainStation | *Final Project* — **September 2023 – October 2023**

An end-to-end final project as part of the course, using Letterboxd movie reviews to draw insights for industry professionals, content creators, and platform creators in understanding audience sentiment, engagements, and trends.

- Conducted sentiment analysis through a Lexicon-based NLP technique in Python using NLTK package
- Analyzed pre-covid and post-covid patterns through SQL scripting and Tableau, revealing the pandemic's significant negative impact on movie reception and engagement.

Canadian Institute for Theoretical Astrophysics | *Undergraduate Researcher* — **September 2020 – December 2020**

Thesis project co-supervised by Professor Ue-Li Pen and Dr. Luke Pratley on recovering dispersion measure (DM) time series and detecting possible signs of gravitational microlensing in the interstellar medium (ISM).

- Developed a cross-correlational analysis between DM and signal intensity of pulsar J2219+4754 resulting in a Pearson coefficient of 0.63, indicating a high correlation for the possibility of microlensing caused by ISM over large timescales. Utilizing Python for time series analysis and statistics.
- Demonstrated oral and written skills through research objectives, literature reviews, proposals, reports, presentations, and developed strong communication and interpersonal skills through group meetings.

WORK EXPERIENCE

Dunlap Institute for Astronomy & Astrophysics | *Summer Research Internship* — **May 2020 – August 2020**

Interned at the Summer Undergraduate Research Program (SURP) working on testing new reconstruction algorithms on rotation measure data from complex magnetized mediums.

- Improved reconstructed output signal by 300% using a wavelet prior as opposed to a Dirac prior for Faraday thick structures through a simulation analysis and applying results to real data using Python.
- Conducting an assortment of data analytical tasks, data visualization, progress reports, and team meetings. Meeting project expectations with minimal supervision.