

# ELIJAH NATHANIEL CAVAN

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## PROFESSIONAL EXPERIENCE

### R & D Data Scientist

#### Pinnacle

March 2023 – Toronto, ON

- Streamlined data management through scheduled GCP pipelines
- Innovated a Pregame handball model, outperforming the previous version by 3%.
- Wrote production-grade R-Shiny applications and packages
- Used advanced website scraping to bolster model development

### R & D Data Scientist

#### Pittsburgh Pirates

June 2022 – Nov 2022 Pittsburgh, PA

- Enhanced performance prediction accuracy for MLB draft prospects by 5% through tailored machine learning models, leveraging historical MLB draft data.
- Implemented Cronbach alpha regression techniques, achieving a nuanced normalization of batter swing statistics (stability analysis)
- Engaged with advanced machine learning tools, including Keras and TensorFlow, for robust model development and optimization.

### R & D Data Science Intern

#### Stathletes

Oct 2021 – May 2022 Burnaby, BC

- Engineered advanced Monte Carlo simulations to devise a betting model, accurately predicting 75% of the first round series results in the 2022 NHL playoffs.
- Combined unsupervised and supervised machine learning to innovate player classification and enhance simulation accuracy, leading to the creation of an R-Shiny dashboard showcasing goalie metrics.

### Jr. Data Scientist

#### Backr

October 2020 – May 2021 Kingston, ON

- Utilized Google Cloud and Big Query for analysis of multi-million record datasets from YouTube comments. Developed a churn prediction Neural Network via Keras .
- Crafted and presented data-driven dashboards with Plotly & Dash. Conceived algorithms boosting user retention by 15 %.

### Data Analyst

#### Loblaws

Apr 2020 – May 2021 Brampton, ON

- Championed a Python automation initiative, replacing VBA-Excel tasks and streamlining database interactions, resulting in over 10 hours saved weekly.
- Independently developed a Python script to automate email notifications, significantly enhancing analyst efficiency and stakeholder responsiveness.

## SUMMARY

An innate quantitative acumen reinforced by a robust academic foundation in the sciences. A natural educator, I blend research rigor with a zeal for innovation, frequently tackling self-initiated challenging projects.

## EDUCATION

### Undergraduate

#### University of Waterloo

Sept 2013 – Mar 2017

B.Sc Mathematical Physics

### Postgraduate

#### Wilfrid Laurier, Simon Fraser University

Sept 2017 – Jan 2023

M.Sc Dynamical Systems (WLU) & Statistical Modelling (SFU)

## AWARDS

- 2022 NFL Big Data Bowl Grand Champion
- Randy Sitter Graduate Scholarship
- Tom Bertzi Campus Citizen Nominee
- Quantum Computing Bootcamp Hackathon Finalist
- Student Satisfaction teaching award
- Waterloo Hacks - 3rd place and Manulife Challenge winner, NeurotechHA Hackathon - 1st place, UW Portal Hackathon Winner

## SKILLS

- Main Development Languages

Python R Javascript SQL Matlab

- Modelling & Machine learning

scikit-learn tensorflow Keras carat  
xgboost PyTorch scipy pystan

- Other

Git PyPortfolioOpt VBA/Excel  
CGP MongoDB freqtrade