

Lucas Ben

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EDUCATION

Master of Business Analytics (candidate 2025-2026)

York University – Schulich School of Business, Toronto, Ontario

- Predictive Modeling, Artificial Intelligence Fundamentals, Databases, Management of Risk in Financial Institutions

Bachelor of Science in Statistics (2024)

Dalhousie University, Halifax, Nova Scotia

- Statistical Learning with Python, Applied Multivariate Analysis, Regression Analysis, Experimental Design, Macroeconomics

TECHNICAL SKILLS

Languages: Python, R, SQL, HTML/CSS

Libraries/Tools: PyMC, PyTorch, Prophet, Scikit-learn, statsmodels, Matplotlib, Pandas, Git

Statistical Techniques: Bayesian Modeling, Stochastic Processes, Time-Series Forecasting, GLM, Optimization, Data Mining, Unsupervised Learning

PROJECTS

Bayesian Analysis of Whiff % in Rookie Pitchers

- Applied a Bayesian Beta-Binomial model to estimate rookie pitcher Anthony Veneziano's true whiff rate using small-sample data, improving interpretability over traditional metrics and quantifying uncertainty with a 95% credible interval.

Understanding the Relationship between Volatility and the S&P 500

- Quantified negative correlation between SPX and VIX using statsmodels, later adapting the framework to analyze pairs trades during market downturns
- Developed forecasting pipeline with Prophet to predict VIX spikes two weeks ahead

Using Cluster Analysis to Uncover a Pattern of World Series Winners

- Identified era-specific team archetypes using PCA and Gaussian mixture models, revealing five distinct clusters that aligned with MLB rule change epochs
- Developed feature importance framework via PCA loadings, identifying variables that correlated with team success

EXPERIENCE

Quantitative Risk Analyst (2024-2025)

Dalhousie Investment Society, Halifax, Nova Scotia

- Developed predictive models in Python, leveraging ARIMA, GARCH, and neural networks to analyze historical market trends and advise investment positions

SKILLS AND INTERESTS

- Varsity baseball catcher during undergraduate studies
- SABR Analytics I certification
- Baseball analytics with a focus on advanced statistical models
- Enjoy learning about quantitative finance and portfolio theory