Zane Hassoun

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PhD Candidate in Statistics, University of York (UK)
Dual U.S. U.K. Citizen

EDUCATION

University of York (UK)   PhD in Statistics   *Oct. 2022 – Oct. 2025*

Research: Developing Bayesian ensemble models for aggregating time-series forecasts in prediction markets and sports betting, focusing on dynamic model weighting, regime shifts, and uncertainty quantification.

Fully funded by four-year PhD Studentship Award

University of St Andrews (UK)   MSc in Statistics   *Sep. 2021 – Sep. 2022*

Thesis: GARCH models with exogenous signals to capture volatility from fund manager actions.

Home-Fees Scholarship Recipient

University of Massachusetts Amherst (USA)   BA in Economics   *Sep. 2016 – May 2019*

Chancellor's Scholar, graduated in three years.

EXPERIENCE

University of York   Graduate Teaching Assistant   *2022 – Present*

- Taught Bayesian statistics, inference, and time-series modeling using Python and R.
- Supported students in implementing forecasting models, machine learning algorithms, and probabilistic programming tools.

Dish Network   Data Science Intern – Customer Retention   *Summer 2021*

- Built logistic regression models to score churn risk and optimize retention strategy.
- Collaborated with retention analysts and engineering to implement scoring logic, contributing to projected savings of $1.2MM annually.

The NPD Group   Analyst – Consumer Insights   *2019 – 2020*

Full-time role prior to graduate school; contributed to pricing and demand analysis

SELECTED PROJECTS

Bayesian Forecast Aggregation with Change Point Detection

Developed Kairosis, A Bayesian change-point model for aggregating time-series probability forecasts, outperforming standard methods in volatile settings. Published in the *International Journal of Forecasting*.

Bayesian Characterization of Prediction Market Traders

Ongoing research modeling trader behavior and latent belief dynamics in prediction markets (e.g., Polymarket), with a focus on posterior inference for belief distributions using Bayesian updating and filtered Beta models.

Modeling Fund Management and Market Volatility

Used GARCH models with structural regressors to quantify how fund manager actions influence volatility dynamics in equity markets.

TECHNICAL SKILLS

Programming: Python (NumPy, pandas, scikit-learn, statsmodels, PyMC), R, SQL, Git
Modeling: Bayesian inference, MCMC, change point detection, time series (ARIMA, GARCH), logistic regression, tree-based models (e.g., GBM, random forests)
Quant Topics: Probability theory, optimization, statistical learning, volatility modeling