Zane Hassoun

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Citizenship: U.S.A., U.K.

Education

University of York — York, UK
Ph.D. in Statistics — 2022-Present
Supervisors: Niall Mackay & Ben Powell
Research: Knowledge aggregation and forecasting for geopolitical, macroeconomic and sporting events. My project aims to design interpretable methods that can aggregate sparse probability forecasts for different events. Generally, working on computational models for events that involve both smooth drift components and non-smooth jump components. The current focus is on Bayesian change point detection and its contribution to temporal weighting in forecast aggregation and Markov Decision Processes for informing dynamic football (soccer) strategy.

University of St Andrews — St Andrews, UK
M.Sc. in Statistics with Merit — 2021-2022
Dissertation: Can Predicted Fund Management Decisions Improve Stock Volatility Forecasts?
Relevant Coursework: Advanced Bayesian Inference, Machine Learning, Modelling Using GLMs, Multivariate Analysis, Quantitative Risk Management, Modeling Population Dynamics, Statistical Learning

University of Massachusetts — Amherst, MA, USA
B.A. in Economics (Completed in 3 years) — 2016-2019

Working Publications

- Kairosis: A method for dynamical probability forecast aggregation informed by Bayesian change point detection (under review)
- A Bayesian method for aggregating equity research analyst stock recommendations (in prep)
- Markov Decision Processes to inform strategy in FA Women's Super League soccer matches (in prep)

Awards and Scholarships

- Chancellors Scholarship: Selected for largest out of state merit scholarship - 2016-2019
- ACHA Ice Hockey Academic All American - 2019
- Domestic fee staus award University of St Andrews - 2021
- University of St Andrews Statistics & Computer Science ID5059 Machine Learning Model Competition Winner (awarded cash prize from LightGBM model to predict credit card default) - 2022
- Full tuition and stipend PhD studentship -University of York 2022
- Awarded Best 20 Minute Talk - University of York Graduate Symposium 2024

Professional Experience

University of York 2022-present
Graduate Teaching Assistant

- I lead weekly seminars, mark assignments, answer questions and offer guidance. Focused on helping students grasp Machine Learning, Probability Theory and Statistical Inference.
- Autumn 2022: Statistical Pattern Recognition (Introductory Machine Learning), Probability and Statistics, Statistical Modelling with R
- Spring 2023: Statistical Inference, Statistical Modelling with R
- Summer 2023: Statistical Inference, Linear Models

Dish Network 2021
Statistician Intern

- Conducted a 10-week project on commitment roll off churn mitigation strategies using various GLMs, Tree Models (Classification Trees, Random Forest), Basis Splines, Teradata SQL server and PowerPoint yielding a new call routing recommendation saving Dish $\tilde{\$}$1.2MM annually
- Built and presented various models for additional ad hoc departmental projects analyzing performance of customer retention initiatives (offers, contract structures, etc.)
- Concisely delivered bi-weekly updates of statistical findings to senior level management (Director, VP, President)

The NPD Group (Circana) 2019-2020
Associate, Client Development - Retail Business Group

- Prepared and presented relevant subsets of NPD's syndicated data using proprietary software, R, Tableau, Excel, and PowerPoint to give insights and recommendations during on-site client presentations
- Analyzed client performance at brand, item, and geographical levels as well as BDI and distribution/velocity indices, aiding competitive positioning and line review strategy
- Served as consultative partner for clients; understand market and industry trends, identify business issues, and recommend NPD products that will help resolve them and represent a positive ROI for both parties
- Created Excel metrics dashboard for new data releases to better track and communicate industry trends

Research Interests

Decision science, Bayesian statistics, multivariate time series, statistical learning, probability scoring

Technical Skills

Statistical Modeling, Time Series Analysis, Bayesian Statistics, Classification and Clustering, Dimensionality Reduction, Statistical Computing, R Programming, Python Programming, SAS Programming, Multivariate Analysis, Nonparametric Statistics, Decision Theory, Optimization Methods, Financial Risk Analysis, Statistical Consulting, Interdisciplinary Collaboration, Project Management