BOBBY MACK

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DATA SCIENCE | ANALYTICS

MOTIVATION

I'm deeply passionate about tackling business challenges through Data Science and Machine Learning. I apply my skills both systematically and creatively to deliver real value to teams, businesses, and end-users. I'm committed to continuous learning and always striving to improve.

SKILLS & TOOLS

Programming: SQL, Python (Base, Pandas, Numpy, Matplotlib, Scikit-Learn, Keras)

Tools: Excel, Tableau, Github, AWS (S3, Lambda, IAM, EC2, SageMaker, RDS, DynamoDB)

Math: Linear Algebra, Statistics (Hypothesis Testing, AB Testing, Central Limit Theorem, Distributions)

Machine Learning: Linear Regression, Logistic Regression, Decision Trees, Random Forest, KNN, k-means, PCA, Association Rule Learning, Causal Impact Analysis, Neural Networks

EXPERIENCE

Warehouse partner- John Lewis Partnership

SEPTEMBER 2022 - JAN 2024

- Assisted in training new employees with operations within the warehouse
- Ensured that deliveries were sent off on time and tasks were completed with proper care in line with business standards, which improved my time-management skills, as well as showing that I am dedicated to my work
- Working with a diverse group of people as a team in order to meet deadlines

Commitee member- University halls

2020-2021

- In charge of all matters regarding accommodation, environmental standards and ethical issues in relation to the hall
- Volunteering within the local community
- Help to organise and run events for students such as fairs, with proceeds going either to charity or to help with running the hall
- Attending regular commitee meetings

Football referee

2016 -2022

- Enforce playing rules fairly with safety of players and best interest of the game in mind
- Acting on own initiative during the game, making difficult decisions quickly and decisively, diffusing heated situations when needed
- Having to communicate decisions/rules to players/coaching staff in a clear and concise manner

PROJECTS

Customer loyalty score predictions

- Tested and then compared the predictive accuaracy of linear regression, decision tree and random forest models to predict missing customer loyalty score values based on data where loyalty score is present.
- Random forest was the most accurate with an adjusted R-squared score of 0.955

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DATA SCIENCE | ANALYTICS

PROJECTS (CON'T)

"You Are What You Eat" Customer Segmentation

- Used k-means clustering on grocery transaction data to split out customers into distinct "shopper types" that could be used to better understand customers over time, and to more accurately target customers with relevant content & promotions

Enhancing targeting accuracy with ML

- Tested and compared classification models such as logistic regression and random forests to predict which customers would sign up to a '*delivery club*' and then target only these customers with a marketing campaign, thus saving on costs

EDUCATION

BSc Economics

2020 - 2024 - Loughborough University

- Gathering, analysing and interpreting data in report form
- Using Stata to test the whether the Purchasing Power Parity condition holds between the GBP and USD
- Understanding of AutoRegressive and Moving Average models

COURSES & CERTS

Data Science Professional Certification (Data Science Infinity)

Actionable Learnings: Extracting & manipulating data using SQL. Application of statistical concepts such as hypothesis tests for measuring the effect of AB Tests.

Using Python for data analysis, manipulation & visualisation. Applying data preparation steps for ML including missing values, categorical variable encoding, outliers, feature scaling, feature selection & model validation. Applying Machine Learning algorithms for regression, classification, clustering, association rule learning, and causal impact analysis for measuring the impact of an event over time. Machine Learning pipelines to streamline the ML pre-processing & modelling phase.

Using Tableau to create powerful Data Visualizations. Turning business problems into Data Science solutions.