


# JASPAL SARRAH

DATA SCIENCE | ANALYTICS

jaspalsarrah@gmail.com 

www.linkedin.com/in/jaspal-sarrah 

07957571160 

https://jaspalsarrah.github.io/ 

## MOTIVATION

*I am passionate about **solving business problems** using Data Science & Analytics. I systematically & creatively use my skillset to **add tangible value** to the team, the business, and the end-user. I am constantly learning, and always looking to improve.*

## SKILLS & TOOLS

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

**Tools:** Excel, Tableau, Github

**Mathematics:** 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

## EXPERIENCE

### Senior Insights and Data Consultant - Capgemini

OCTOBER 2021 - PRESENT

- Next Generation Consumer Banking (NGCB) project – To comply with regulatory requirements, I defined **analytics requirements** and development of Risk Information System reports to support a new credit product for a major UK bank. Coordinated **data validation** and testing through **System Integration Testing and User Acceptance Testing**, ensuring seamless approval workflows and effective integration of current and new data reporting processes for stakeholders.
- Data migration project – In order to modernise processes for the client, I leveraged **analytical methodologies** to assess, catalogue, and map data assets to migrate processes from legacy platforms to modern environments. I developed and maintained a migration backlog, while overseeing **programming in SAS/SQL** using rigorous version control practices. The result being the safeguarding of data quality and ensuring uninterrupted business operations throughout the project.

### Senior Lecturer - Birmingham City University

OCTOBER 2018 - AUGUST 2021

- To increase the quality of teaching in mathematics, I developed, implemented, and assessed modules focused on **data analytics** concepts (such as **linear algebra, hypothesis testing, regression, and data visualisation**), enabling participants to deliver knowledge rich lessons.
- To ensure trainees did not delivered on the programme requirements, I carried out **data analysis** to identify teachers requiring additional support and delivered targeted coaching sessions, resulting in a 100% success rate for the department.

### Assistant Director of Learning Mathematics - Holyhead School

APRIL 2014 - OCTOBER 2018

- To enhance teaching standards and student pass rates, a focus was placed on gathering and assessing student performance data, followed by the use of **data analysis** and **predictive analytics** to pinpoint student weaknesses and areas for instructional improvement. The outcome ultimately raising the standard of teaching across the department and student outcomes.

### PROJECTS

#### **"Enhancing Targeting Accuracy" using machine learning**

- Used different [classification](#) algorithms ([Logistic Regression](#), [Decision Tree](#), [Random Forest Classification](#) and [K-Nearest-Neighbours \(KNN\)](#)) on historical data where customers had signed up to a promotion. The most accurate model could be used to target efforts on customers likely to sign up and thereby minimising the cost.

#### **"Predicting Customer Loyalty" using regression techniques**

- Used regression algorithms ([Linear Regression](#), [Decision Trees](#) and [Random Forest Trees](#)) to find the most accurate model to predict customer loyalty score. The solution would allow the business to target specific customers for marketing or to gain an understanding of the customers.

#### **"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

#### **"Assessing Campaign Performance" using Chi-Square Test for ind**

- Used [AB Testing](#) to assess whether a new mailer type increased the sign-up rate for promotional content. This allows the business to compare different strategies and see if one approach is having a positive impact before spending money.

### EDUCATION

#### **BEng (Hons) Mechanical Engineering, 1<sup>st</sup> Class Honours**

1999- 2003- Aston Univeristy, UK

### 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. Utilising Github for version control, and collaboration. 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. Deployment of a ML pipeline onto a live website using Streamlit. Using Tableau to create powerful Data Visualizations. Turning business problems into Data Science solutions.

#### **Associate Python Programmer certification, PCAP 31-03**

**Actionable Learnings:** Emphasis on Object-Oriented Programming, covering advanced topics such as modules, packages, exception handling, string operations, and file handling. This could be utilised for importing relevant module/packages to creating machine learning models.

#### **Tech Talent Academy, Data Academy**

**Actionable Learnings:** Showing familiarity with concepts like data types, containers, functions, conditions, loops, as well as Python programming language syntax, semantics, and the runtime environment. This could be utilised for data cleaning and preparation.