**SAMIA SAAD**  
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**Professional Summary**

Data professional with **6+ years of experience** in the data space and a **Master’s in Computer Science**. Passionate about **Machine Learning, Predictive Analytics, and Data Science**, with a strong background in **data wrangling, exploratory analysis, statistical modeling, and machine learning algorithms**. Experienced in deploying data-driven solutions to optimize operations and drive business growth. Adept at presenting insights to both technical and non-technical stakeholders. Seeking to leverage expertise in **Python, R, SQL, and cloud technologies** to solve complex business challenges.

**Skills & Tools**

* **Programming Languages:** Python, R, SQL
* **Machine Learning & AI:** Scikit-learn, TensorFlow, PyTorch
* **Data Visualization:** Tableau, Power BI, Matplotlib, Seaborn
* **Big Data & Cloud:** AWS, Google Cloud, Hadoop, Spark
* **Databases:** MySQL, PostgreSQL, MongoDB
* **Other:** Feature Engineering, Data Wrangling, Statistical Analysis, Predictive Modeling

**Projects**

**Banking Marketing Analysis**

**Goal:** This project focuses on predicting whether a client will subscribe to a term deposit based on various demographic and marketing-related features. The dataset comes from a bank's marketing campaign, where the target variable is whether or not the client subscribed to a term deposit (y). The goal is to build a machine learning model to predict this outcome using a variety of features such as the client's age, job, education, and past marketing interactions.

* **Skills & Tools Used:** **Python, Pandas, NumPy, Scikit-learn, Matplotlib/Seaborn**
* **Outcome:**

**Improved Targeting:** The predictive model helped identify potential customers likely to subscribe to a term deposit, allowing the bank to focus its marketing efforts more efficiently.

**High Model Accuracy:** The **Random Forest Classifier** achieved an **accuracy of 91.2%**, effectively distinguishing between customers who would subscribe and those who wouldn't.

**Enhanced Marketing Strategies:** The insights from the model provided **data-driven recommendations** for personalized marketing campaigns, improving customer conversion rates.

**Optimized Resource Allocation:** By targeting only the most promising leads, the bank could **reduce marketing costs** and improve its return on investment.

**Future Scalability:** The project laid the foundation for further improvements, including **deploying the model for real-time predictions** and integrating additional customer data for better accuracy.

**Wine Quality Prediction**

* **Goal:** Predict wine quality based on physicochemical properties of Portuguese *Vinho Verde* wines.
* **Skills & Tools Used:** **Python, Scikit-learn, Feature Selection, Classification Models**
* **Outcome:** Built a classification model with 85% accuracy, identifying key factors affecting wine quality.

**Breast Cancer Diagnosis with Machine Learning**

* **Goal:** Classify breast cancer tumors as benign or malignant using digitized fine needle aspirate (FNA) images.
* **Skills & Tools Used:** **Python, SVM, Random Forest, Feature Engineering**
* **Outcome:** Developed a diagnostic model with 95% accuracy, improving early detection of breast cancer.

**Income Prediction Using U.S. Census Data**

* **Goal:** Predict whether an individual’s income exceeds $50,000 based on demographic and employment attributes.
* **Skills & Tools Used:** **Python, Pandas, Scikit-learn, Data Imputation, Classification Models**
* **Outcome:** Built an income classification model, achieving an F1-score of 0.82 after handling missing values and balancing the dataset.

**Professional Experience**

**Education**

**Harvard Business School**- Executive Education in Business Analytics **2021**

**Master’s in science (MS), Computer Science,** *Montclair, NJ* **2019**

Montclair State University (MSU), Overall CGPA: 3.8/4.0

**Bachelor’s in science (BS), Software Engineering** **2007**

Bahria University

**Certifications & Additional Information**

* Project Management Professional (PMP) 2022
* Google Cloud Professional Certified (2022)
* AWS Solution Architect-Associate (Amazon AWS, 2019)
* ITIL V3 Foundation (ITIL, 2013)
* Google Analytics Individual Qualification (GAIQ) 2021
* Scrum Master
* Google Professional Machine Learning Engineer (In Progress)