



MD ABDULLAH AL NOMAN

DATA ANALYST | MACHINE LEARNING PRACTITIONER

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Detail-oriented **Business Analyst** with almost 3 years of experience in IT and analytics. Skilled in bridging business goals with actionable insights by leveraging data analysis, visualization, and machine learning models. Proficient in developing predictive, classification, and clustering models to solve real-world business problems. Adept at collaborating with cross-functional teams and delivering solutions that drive growth and improve.

EDUCATION

Master of Science in Applied Statistics | University of Dhaka

Degree obtained in 2021 with CGPA 3.17 (out of 4.00)

Bachelor of Science in Applied Statistics | University of Dhaka

Degree obtained in 2019 with CGPA 3.08 (out of 4.00)

Higher Secondary in Science | Birshreshtha Noor Mohammad Public College

Degree obtained in 2015 with GPA 5.00 (out of 5.00)

Secondary in Science | Birshreshtha Noor Mohammad Public College

Degree obtained in 2013 with GPA 5.00 (out of 5.00)

EXPERIENCE

Business Analyst | Datafluent Analytics | Rampura, Dhaka

April, 2022 – March, 2025

PROJECTS

- Academic

1. Factors associated with access to and use quality maternal health service: evidence from Bangladesh demographic and health survey 2014

Bachelor of Science | 2019 | Applied Statistics | University of Dhaka

Objective: Investigated the factors associated with maternal health service utilization in Bangladesh during antenatal, delivery, and postnatal periods.

Methods:

- Applied logistic regression models to analyze the association between maternal healthcare utilization and predictor variables.
- Developed and fitted three separate logistic regression models for antenatal, delivery, and postnatal care utilization as response variables.
- Incorporated predictor variables such as age, birth order, residence, educational level, wealth index, number of antenatal care visits, and NGO membership.
- Included interaction terms to explore the combined effects of selected predictors.

Results:

- Provided data-driven insights into significant determinants influencing maternal healthcare usage across different periods.
- Highlighted critical factors for improving healthcare access in rural and urban settings.

Tools: Stata, Latex.

Impact: Contributed to understanding maternal health service dynamics, which can guide policymakers in improving healthcare accessibility and resource allocation.

2. Forecasting of CPI adjusted remittance in proportion to the population of Bangladesh

Master of Science | 2021 | Applied Statistics | University of Dhaka

Objective: Forecasted the CPI-adjusted remittance per capita in Bangladesh to analyze whether the growth in remittance, adjusted for inflation and population, would sustain in the upcoming years.

Methods:

1. Applied ARIMA modeling to forecast remittance trends and performed the following steps:
 - Conducted stationarity tests using graphical procedures and the Augmented Dickey-Fuller (ADF) test.
 - Performed model identification using ACF, PACF plots, and AIC values.
 - Evaluated model diagnostics using the Ljung-Box test to confirm model adequacy.

2. Fitted a Single Exponential Smoothing Model and compared it with the ARIMA model using performance metrics such as Mean Error, Mean Squared Error, and Theil's U statistic.

Results:

- Provided actionable insights on the future trajectory of CPI-adjusted remittance per capita.
- Highlighted the significance of inflation and population in long-term remittance sustainability.

Tools: R, Latex.

Impact: Enabled policymakers to better understand and plan for remittance trends, taking inflationary effects and population growth into account.

- **Professional**

1. **Payment Gateway Data Analysis**

Datafluent Analytics | 2022-23

Objective: Analyzing payment gateway data to gain actionable insights into transaction patterns, customer behavior, and KPI trends.

Key Tasks & Processes:

1. **Data Processing:**

- Cleaned data by removing garbage values, outliers, and inconsistencies.
- Replaced missing data using imputation techniques.
- Combined and joined multiple datasets for a cohesive analysis.

2. **Exploratory Data Analysis (EDA):**

- Conducted basic analytics to understand the overall data distribution.
- Performed a Permutation Test for group-wise average and total comparisons.
- Applied Chi-square Tests to evaluate the association between categorical variables.
- Analyzed daily progress through percentage change of KPIs.
- Investigated daily and hourly trends to identify peak and low transaction times.

3. **Machine Learning:**

- **Prediction:** Built a classification model to predict the status (success/fail) of payment transactions, allowing proactive error handling and improved success rates.
- **Clustering:** Applied unsupervised learning techniques to group locations based on transaction success rates, uncovering insights into location-based performance.
- **Forecasting:** Developed a time series model to forecast utility bill payments, enabling accurate demand predictions and strategic planning.

Algorithms Used:

- Logistic Regression for classification tasks.
- K-means Clustering for grouping similar locations.
- Exponential Smoothing for forecasting.

Tools & Packages:

- R (Data Processing & Machine Learning):
 - Key Packages: readxl, writexl, tidyverse, caret, forecast.
- Tableau (Visualization & Reporting):
 - Created interactive dashboards to present KPIs, trends, and clustering results effectively.

Impact:

- Enhanced Customer Experience: The predictive model helped reduce transaction failures by providing preemptive solutions.
- Operational Efficiency: Clustering insights guided resource allocation to underperforming regions.
- Strategic Growth: Forecasting utility bill trends empowered stakeholders to prepare for future demand effectively.

By leveraging machine learning techniques alongside traditional analytics, this project has optimized payment processes and provided a foundation for data-driven decision-making to drive growth in the payment gateway platform.

2. Election Analytics

Datafluent Analytics | 2022-present

1. Data Processing:

- **Data Cleaning:**
 - Re-labeled inconsistent entries, removed garbage values, and added new features for analysis.
 - Merged datasets to create a unified and comprehensive voter list.
 - Tools: R Programming
 - Packages Used: readxl, tidyverse, lubridate.
- **Geocoding:**
 - Identified geographic coordinates and geo IDs for voters.
 - Tools: R Programming
 - Packages Used: rvest, tidygeocoder.
- **Demographics Data Collection:**
 - Enriched the dataset by collecting demographic data, such as race, income, poverty percentage, graduation percentage, unemployment rates, and average family size.
 - Tools: R Programming

- Packages Used: wru, rethnicity, tidycensus.

2. Machine Learning:

Prediction:

- Built classification models to predict whether a voter would vote for a specific political party based on demographic data, including race, income, gender, and age.
- Algorithms Used: Random Forest and k-Nearest Neighbors (k-NN).

Statistical Analysis:

- Conducted T-tests and Chi-square Tests to examine the association between the response variable (voting preference) and predictor variables (demographics).

Tools: R Programming

Packages: tidyverse, randomForest, class

3. Data Visualization:

- **Mapping Geo-Location:** Incorporated interactive geographic mapping to visualize and analyze location-specific data effectively.
- **Demographic Distribution:** Designed and displayed demographic metrics, including age, race, and gender, for comprehensive insights.
- **Filters:** Added interactive filters to allow users to explore data subsets and customize their views.

Tools: Tableau.

Impact:

- **Actionable Insights:** The predictive models provided insights into voter behavior, enabling better targeting and campaign planning.
- **Enhanced Data Quality:** Data cleaning and enrichment improved the dataset's usability for future research and applications.
- **Geographical Patterns:** Geocoding facilitated the identification of location-based voting trends, aiding strategic decision-making.
- **Visual Dashboard:** The dashboard provided a user-friendly interface for visualizing geo-located data and demographic insights, enabling efficient data exploration and informed decision-making.

This project combined data processing, demographic enrichment, and machine learning to generate valuable insights into voter behavior and preferences, contributing to strategic initiatives in political campaigns.

OTHER EXPERIENCES

- **Training Program - Emerging Technologies to Mitigate the Challenge of 4th Industrial Revolution (AI Driven Data Analytics)**



I served as a trainer in this program, where I trained **200 DoICT officials** from the **ICT Division** under the **Ministry of Post, Telecommunications, and Information Technology**. The objective of the training was to equip officials with the skills needed to address the challenges of the 4th Industrial Revolution. My responsibility was to conduct sessions on data analytics with a focus on data visualization, providing hands-on practice using tools such as **Power BI** and **Tableau**.

CERTIFICATES

1. Machine Learning with Python | IBM | Coursera | 2024
 2. Machine Learning with R | EDUCBA Bridging the Gap | Udemy | 2024
 3. SQL for Data Science | SS Lawrence | University of California | Coursera | 2024
 4. Tableau Data Visualization Basics Tutorial | Simplilearn | 2024
 5. Power BI for Beginners | Simplilearn | 2024
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LANGUAGE PROFICIENCY

Proficient in both written and spoken communication, with excellent interpersonal skills in both Bengali and English. Demonstrates strong presentation abilities.

SKILLS

1. R Programming
2. Python
3. SQL
4. Tableau
5. Power BI
6. MS Office (Word, Excel, Power Point)
7. Google (Docs, Spreadsheet, Slide)
8. Google Extensions (Selector Gadget, Instant Data Scraper, PIPILEADS etc)

REFERENCES

- 1. Sajal Kanti Howlader**
Director
DataFluent Analytics
E-mail: kanti.sajal@gmail.com
Relation: Reporting Manager
- 2. Dr. M. Shafiqur Rahman**
Professor
Institute of Statistical Research and Training
University of Dhaka
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Relation: Supervisor