# Mariam Abdelhamid

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## Personal Statement

Hardworking student seeking internships to leverage the resources and networking opportunities with like-minded peers and industry experts, engage in cutting-edge research, and gain hands-on experience through internships and consulting projects. Bringing forth a positive attitude and the willingness and motivated to learn new related skills.

## Education

- **Egyptian Russian University [2021 – 2025]**
  - **B.Sc.** in Business Analytics
  - Year–3, Cumulative GPA 3.67

- **Manaret-El-Eman Language School [2008 - 2021]**

## Work Experience

- **Group Projects:**

  - Develop Library Management System to efficiently manage book inventory and facilitate book borrowing process implemented using C++

  - Our team conducted a study to determine whether online or on-ground learning is more efficient during college education. Using SPSS, we analyzed our data in two parts: Descriptive analysis and Inferential analysis.
    We gathered a sample of 40 students from the Egyptian Russian University (ERU) for our study. The results suggest that, based on our sample data, online learning appears to be more efficient than on-ground learning for ERU students.

  - Developed a project focusing on weather patterns in Szeged, Hungary. Using Python, we explored a dataset spanning from 2006 to 2016 sourced from Kaggle. With a keen eye for detail, we uncovered insightful trends and correlations within the data, providing valuable insights for weather forecasting and urban planning.

  - We collectively delved into YouTube analytics, exploring the "Global YouTube Statistics 2023" dataset from Kaggle. This dataset offered valuable insights into the most subscribed YouTube channels, providing details on subscriber counts, video views, upload frequencies, and earnings. Our collaborative effort provided a journey into the dynamic world of online content creation, where we utilized Python to uncover relationships between YouTube channel growth metrics and socio-economic factors.

- In a group project on HR Analytics, we explored employee attrition prediction using the "HR Analytics" dataset from Kaggle, Using R for analysis. Our goal was to offer valuable insights for HR departments to anticipate and address potential attrition cases, ensuring organizational stability and growth. Through extensive tasks like data cleaning, visualization, and analysis, including examining correlations among various factors, our objective was to develop predictive models capable of forecasting attrition while gaining valuable insights from the data.

- We designed and implemented a mini library system using Java, using object-oriented programming and software development. This system efficiently manages library resources, enabling users to view books and borrow items seamlessly. By leveraging Java features such as classes, inheritance, and encapsulation, we ensure the effectiveness and scalability of the system.

- We designed a project that is used to understand and gain insight about how total grades can be affected by different variables, analyzing data by visualization, and conducting dashboards using excel that can easily display real time data and update it frequently.

- We have leveraged excel to craft dynamic dashboards offering comprehensive insights into retail performance metrics. Through data analysis and visualization techniques.

- We have utilized Power BI to create insightful dashboards that illuminate key metrics and trends in customer revenue and profitability. Through data analysis and visualization techniques.

- We developed a comprehensive car rental system, employing the Software Development Life Cycle (SDLC) methodology. Beginning with planning, followed by analysis which included gathering of requirements, design, and implementation using SQL , we used tools like IDEA Modeler and SQL and gave a report to ensure the validity of KPIs

- We contributed to the development of a comprehensive system inspired by Uber's model, utilizing SQL as a tool for implementation and ERD plus for Enhanced ERD. Our project had various stages, from planning to implementation, focusing on efficient database management and system functionality.

- There are many data structures that can be used for efficient implementation of a system so we developed a mini and simple project using one of these data structures which was Queue.

- In the Lead Score project, R was instrumental in managing the data's quality and structure. The dataset required significant cleaning, including handling imbalanced data through resampling techniques like ROSE to ensure a balanced representation of classes. Correlation analysis was performed to identify and remove highly correlated variables, thereby reducing multicollinearity and improving model performance. Missing values were imputed, and categorical variables were encoded appropriately. For model creation, I developed multiple predictive models including logistic regression, decision trees, SVM, random forests, and k-NN. Feature selection was applied using recursive feature elimination and importance ranking methods. The models were compared based on metrics such as accuracy, precision, recall, F1 score, and AUC to determine the best model for predicting lead conversion. This comprehensive process resulted in a reliable model that effectively identifies potential leads.

- In the Cars project, I utilized R to perform extensive data cleaning and preprocessing to ensure the dataset was suitable for analysis. This involved handling missing values, removing duplicates, and transforming variables to the appropriate formats. I used techniques such as imputation to fill in missing data and outlier detection methods to identify and treat anomalies. Once the data was cleaned, I implemented feature selection using methods like correlation analysis to remove highly correlated features and reduce multicollinearity. Various models were created, including linear regression and LASSO regression, and I used Box-Cox transformations to normalize the data for better model performance . Model comparison was done to identify the best performing model based on metrics such as RMSE and adjusted R-squared. This thorough approach ensured the development of a robust predictive model for car pricing.

- During our Operations Research project, we utilized Excel to optimize the production of two types of bread in a bakery. The aim was to maximize profits while staying within ingredient constraints. By applying linear programming, we determined that the optimal production strategy would result in the bakery producing approximately 22.73 units of Small Bread and no Big Bread, leading to a maximum profit of 181.82 Egyptian pounds. This project demonstrated our ability to use Excel for effective resource allocation and decision-making in a real-world context.

- Market basket analysis project, our team conducted a comprehensive market basket analysis to uncover patterns and relationships among items frequently purchased together by customers. We utilized Python to process and analyze transaction data from a retail store, employing techniques such as association rule learning with algorithms like Apriori and FP-Growth. Our objective was to optimize product placement and enhance marketing strategies based on the insights gained. By identifying key product associations, we aimed to improve overall customer satisfaction and drive sales revenue. This project highlighted our proficiency in applying data-driven methods to real-world business problems.

- I collaborated with a team to develop a comprehensive Power BI dashboard for analyzing departmental performance across various metrics. Our focus was on visualizing data to identify key performance indicators (KPIs), trends, and areas needing improvement within the organization. Using Power BI, we created interactive and dynamic reports that provided valuable insights to stakeholders, enabling data-driven decision-making and strategic planning.

Projects link: https://drive.google.com/drive/folders/15OdX75hk-LDljXPIaYS3hw7gofdjA6wi?usp=drive_link

## Skills

- C++
- Java
- Python
- R
- Data Analysis
- Office 365

## Events

- Maat for Peace, Development, and Human rights – 2021
- Data science conference (DSC MENA)

## Strengths

- Excellent Communication skills to present points precisely and clearly.
- Hard Working
- Presentation skills
- Teamwork

## Personal Information

- Date of Birth: 26th of August, 2003.
- Nationality: Egyptian.

## Languages

- Arabic – Mother Language
- English – Fluent
- Russian – A1

## Hobbies

- Reading
- crafting