OMAR YOUSSEF

Alexandria, Egypt | +201010269713

G-mail: omaryoussef20182019@gmail.com

Github: https://github.com/omaryoussef20182019

LinkedIn: https://www.linkedin.com/in/omar-youssef-0aa9581b1

EDUCATION

Worldquant University

New Orleans, USA

An intensive online course, project-based program where learners complete eight real-world, end-to-end data science projects. The Lab covers the entire data science workflow: data extraction, cleaning, EDA, feature engineering, supervised & unsupervised machine learning, model tuning, and result presentation. Participants work with Python, SQL, APIs, and modern ML libraries to solve practical problems and build deployable solutions.

Faculty of science, Alexandria University

Alexandria-Egypt

Bachelor of Geology

(Sep 2021)

- Grade: 2.10/4.00 CGPA
- Graduation Project: Cement Industry

PROJECTS

1. **HOUSING IN MEXICO:**

   used a dataset of 21,000 properties to determine if real estate prices are influenced more by property size or location. They import and clean data from a CSV file, build data visualizations, and examine the relationship between two variables using correlation.

2. **APARTMENT SALES IN BUENOS AIRES:**

   built a linear regression model to predict apartment prices in Argentina. They create a data pipeline to impute missing values and encode categorical features, and they improve model performance by reducing overfitting.

3. AIR QUALITY IN NAIROBI:

built an ARMA time-series model to predict particulate matter levels in Kenya. They extract data from a MongoDB database using pymongo, and improve model performance through hyperparameter tuning.

4. EARTHQUAKE DAMAGE IN NEPAL:

built logistic regression and decision tree models to predict earthquake damage to buildings. They extract data from a SQLite database, and reveal the biases in data that can lead to discrimination.

5. BANKRUPTCY IN POLAND:

built random forest and gradient boosting models to predict whether a company will go bankrupt. They navigate the Linux command line, address imbalanced data through resampling, and consider the impact of performance metrics precision and recall.

6. CUSTOMER SEGMENTATION IN THE US:

built a k-means model to cluster US consumers into groups. They use principal component analysis (PCA) for data visualization, and they create an interactive dashboard with Plotly Dash.

7. A/B TESTING AT WORLDQUANT UNIVERSITY:

conducted a chi-square test to determine if sending an email can increase program enrollment at WQU. They build custom Python classes to implement an ETL process, and they create an interactive data application following a three-tiered design pattern.

8. VOLATILITY FORECASTING IN INDIA:

created a GARCH time series model to predict asset volatility. They acquire stock data through an API, clean and store it in a SQLite database, and build their own API to serve model predictions.

9. Titanic Survival Prediction:

Built a supervised ML model to predict passenger survival.
Used Logistic Regression and XGBoost for classification.
Cleaned data, handled missing values, and engineered new features.
Evaluated model accuracy using ROC-AUC and confusion matrix.
Visualized key survival factors for clear insights.

10. British Airways Data Science Job Simulation on Forage - August 2025:

Completed a simulation focusing on how data science is a critical component of British Airways' success. Scraped and analyzed customer review data to uncover findings. Built a predictive model to understand factors that influence buying behavior.

11. BCG Data Science Job Simulation on Forage - August 2025:

Completed a customer churn analysis simulation for XYZ Analytics, demonstrating advanced data analytics skills, identifying essential client data and outlining a strategic investigation approach.

Conducted efficient data analysis using Python, including Pandas and NumPy. Employed data visualization techniques for insightful trend interpretation.

Completed the engineering and optimization of a random forest model, achieving an 50% recall rate in predicting customer churn.

Completed a concise executive summary for the team, delivering actionable insights for informed decision-making based on the analysis.

SKILLS

Big Data & Databases: SQL, NoSQL (MongoDB)
Machine Learning: Regression, Classification, Clustering, Dimensionality Reduction, Anomaly Detection, XGBoost
Data Science Techniques: ETL, Data Cleaning, Feature Engineering, APIs, A/B Testing, Hypothesis Testing
Time Series Analysis: ARIMA, GARCH, Forecasting Models
Tools & Workflow: kaggle, Jupyter Notebook, Data Visualization Dashboard

COURSES

Applied AI Lab: Deep Learning for Computer Vision (Worldquant University) :

Currently enrolled in this online, project-based program (minimum duration: 4 months).
Focused on designing Deep Learning solutions for real-world computer vision tasks.
Building and training CNNs for image classification, object detection, and segmentation.
Applying data augmentation and transfer learning to optimize models.
Developing practical AI models for advanced visual recognition and analysis.

Master's in Financial Engineering – WorldQuant University (Remote, USA) :

A rigorous, tuition-free, two-year master's program focused on quantitative finance and data-driven decision-making. The curriculum integrates applied mathematics, statistics, econometrics, machine learning, and computational finance to develop advanced skills in portfolio theory, derivatives pricing, risk management, and algorithmic trading. Includes practical projects using Python, and quantitative modeling to solve real-world financial challenges.

CERTIFICATES & BADGES

- **CREDLY Platform :**

  https://www.credly.com/users/omar-youssef.adcaa7f1