

# Rania Sakr

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## EDUCATION

**Bachelor in Computer Science Engineering, Faculty of Electronics Engineering, Menofia University**  
September 2019 - May 2024

## PROJECTS

### Air Quality in Nairobi

- Developed an ARMA time-series model to predict particulate matter levels.
- Extracted data from a MongoDB database and optimized model performance through hyperparameter tuning.

### Bankruptcy in Poland:

- Employed random forest and gradient boosting models to predict company bankruptcies.
- Addressed imbalanced data and evaluated model performance metrics such as precision and recall.

### Customer Segmentation in the US:

- Implemented a k-means clustering model to segment US consumers.
- Utilized PCA for data visualization and created an interactive dashboard with Plotly Dash.

### A/B Testing at WorldQuant University:

- Conducted a chi-square test to assess the impact of sending emails on program enrollment.
- Developed custom Python classes for an ETL process and created an interactive data application.

### Volatility Forecasting in India:

- Built a GARCH time series model to forecast asset volatility.
- Acquired stock data via an API, stored it in a SQLite database, and developed an API to serve model predictions.

### APARTMENT SALES IN BUENOS AIRES:

- Built a linear regression model to predict apartment prices in Argentina.
- Created a data pipeline to impute missing values and encode categorical features, and then improved the model performance by reducing overfitting.

## SKILLS

programming (python, java, c++ ) • supervised learning • Databases(SQL, MYSQL)

Visualization(Power BI)