



SALES FORECASTING PROPOSAL

Prepared by

Mohamed Mahrous Mohamed Mahmoud

Sahar Mohamed AbdElmonem Mahmoud Oransa

Ahlam Reda Almetwally Abdelkarim

Hams Mohamed Hassan Ali

Mohamed Ali Hassan Rehan

Afnan Mohamed Ibrahim Elsenosy

Prepared for:

Eng. Sherif Mohamed

PROJECT OVERVIEW

The Sales Forecasting project aims to predict future sales for a retail or e-commerce business by using historical sales data. The project involves data collection, cleaning, exploration, time series forecasting model development, optimization, and deployment.

PROBLEM STATEMENT

Businesses in Egypt's retail sector struggle to predict sales accurately due to fluctuating demand and limited analytical tools. This project aims to develop a web-based forecasting system that uses machine learning to generate accurate sales predictions and support better inventory and marketing decisions.

PROJECT OBJECTIVES

- Develop a machine learning-based model to accurately forecast retail sales trends.
- Improve inventory and marketing decision-making through data-driven forecasting.
- Provide optimization insights for inventory, marketing campaigns, and pricing strategies.
- Develop an automated dashboard to streamline decision-making for business teams
- Provide comprehensive documentation and a presentation to stakeholders highlighting the business impact.

Business Benefits:

- Improving sales predictability and reduce uncertainty in decision-making
- Optimize inventory and reduce stockouts.
- Improve sales planning and marketing strategies.
- Enable data-driven decision-making for the company.

TOOLS & TECHNOLOGIES

- Python (Pandas, NumPy)
- Jupyter Notebook
- Matplotlib, Seaborn
- Plotly / Dash for interactive dashboards
- Scikit-learn
- ARIMA / SARIMA
- XGBoost / LightGBM
- MLOps & Experiment Tracking:
- MLflow
- DVC (Data Version Control)
- Streamlit for web deploying
- Git & GitHub