

Coca-Cola Stock Analysis Project Summary

Project Title

Coca-Cola Stock Analysis - Live and Updated

Author

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Project Type

Major Project

Project Overview

This major project involves a comprehensive analysis and prediction of Coca-Cola (KO) stock prices. Utilizing financial data from Yahoo Finance, the project explores historical trends, builds machine learning models, and implements real-time prediction systems with advanced visualization tools.

Objectives

- Analyze historical Coca-Cola stock data
- Engineer financial features such as moving averages and volatility
- Train machine learning models to predict future stock prices
- Deploy a live prediction dashboard
- Conduct backtesting on trading strategies

Tools and Technologies Used

- Python
- yFinance API

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- scikit-learn
- pandas, numpy
- matplotlib, seaborn, plotly
- Streamlit
- finta (Technical Analysis Library)
- backtesting.py

Key Features and Methodology

- Feature Engineering: Calculated MA20, MA50, Daily Return, Volatility
- EDA: Time-series plots, correlation heatmaps, distribution analysis
- Modeling: Random Forest Regressor for price prediction
- Live Forecast: Live data retrieval + model integration
- Deployment: Streamlit-based interactive dashboard
- Strategy Backtesting: Custom strategies with trading logic

Conclusion

This project not only forecasts stock prices using machine learning but also provides investment insights by simulating strategies. The ability to handle live data makes it a robust, dynamic, and practical financial analysis solution.