

Coca Cola Stock Live and Updated

Created by: Divya Krishnakumar

Type of project: Internship Project

Tools used: Python

Submitted to: Unified Mentor Pvt Ltd.

Date: 30/07/2025

Executive Summary

The aim of the project is to analyse and predict Coca Cola Stock price. The methodology followed involves the following steps: Data Collection, Data Analysis, Data Visualisation, Feature Engineering, Model building, Model Evaluation, Deployment.

Data is collected under the ticker 'KO' and loaded to a dataframe. The columns in the dataframe are – Date, Open, High, Low, Close, Volume, Dividends, Stock Splits. The data is checked for any null values. There were no null values. The data is analysed and visualised for stock attributes, close price trend, open price trend, stock split trend, distribution of dividends.

New features involving financial indicators such as moving averages, daily returns, volatility are created.

A RandomForestRegressor model is developed to predict close price. The model is evaluated using the metrics Mean Squared Error and R-Squared.

A web application is created using Streamlit of the entire analysis and predictions.

Introduction

The aim of the project is to analyse and predict Coca Cola Stock price(closing price). The stock data is live and updated.

The key questions are:

- Trend of coca cola stock
- Trend of close price
- Trend of open price
- Distribution of dividends over years
- Distribution of stock splits over years
- Distribution of volume over years
- Trend of moving averages
- Volatility of stock

Methodology

Data is collected from yahoo.finance under the ticker name 'KO'.

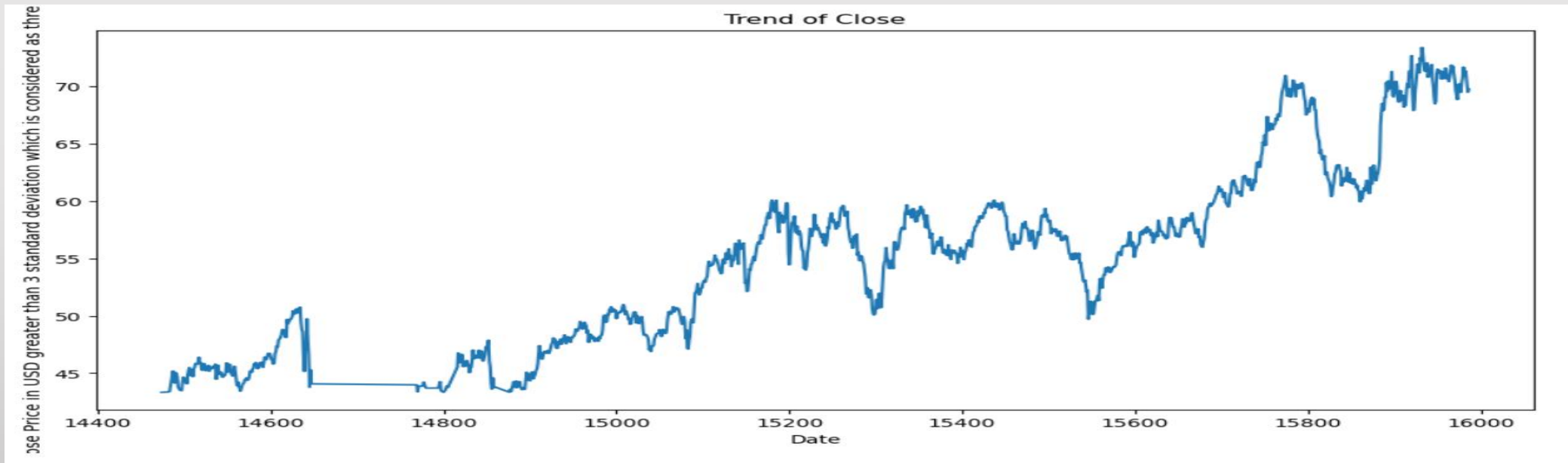
The methodology adopted consists of following steps: Data Collection, Data Analysis, Data Visualisation, Feature Engineering, Model building, Model Evaluation, Deployment.

The collected data is analysed, visualised and subjected to machine learning algorithm such as RandomForestRegressor and evaluated.

Data Collection- Data is collected under the ticker name 'KO' and loaded to a dataframe. The columns in the dataset were Date, Open, High, Low, Close, Volume, Dividends, Stock Splits.

Data Analysis and Visualisation results

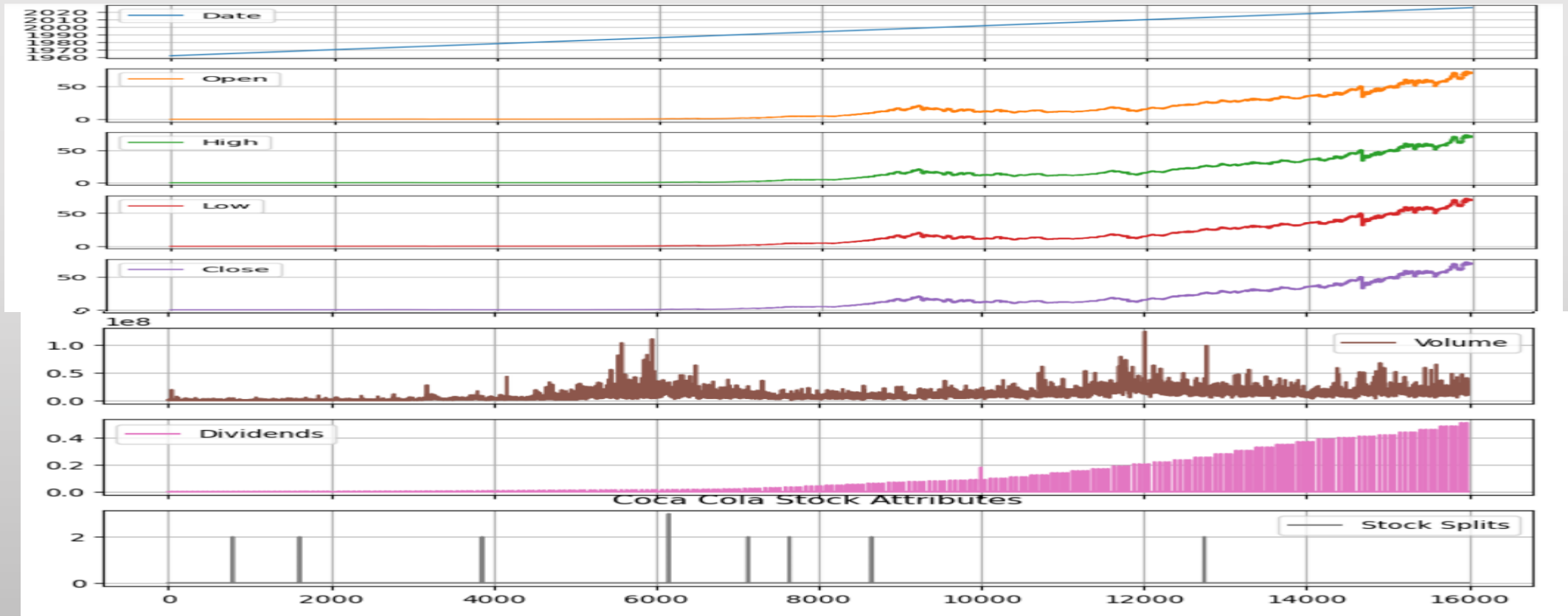
The trend of stock whether bullish or bearish



The stock shows a bullish trend from 2019-07-03 onwards.

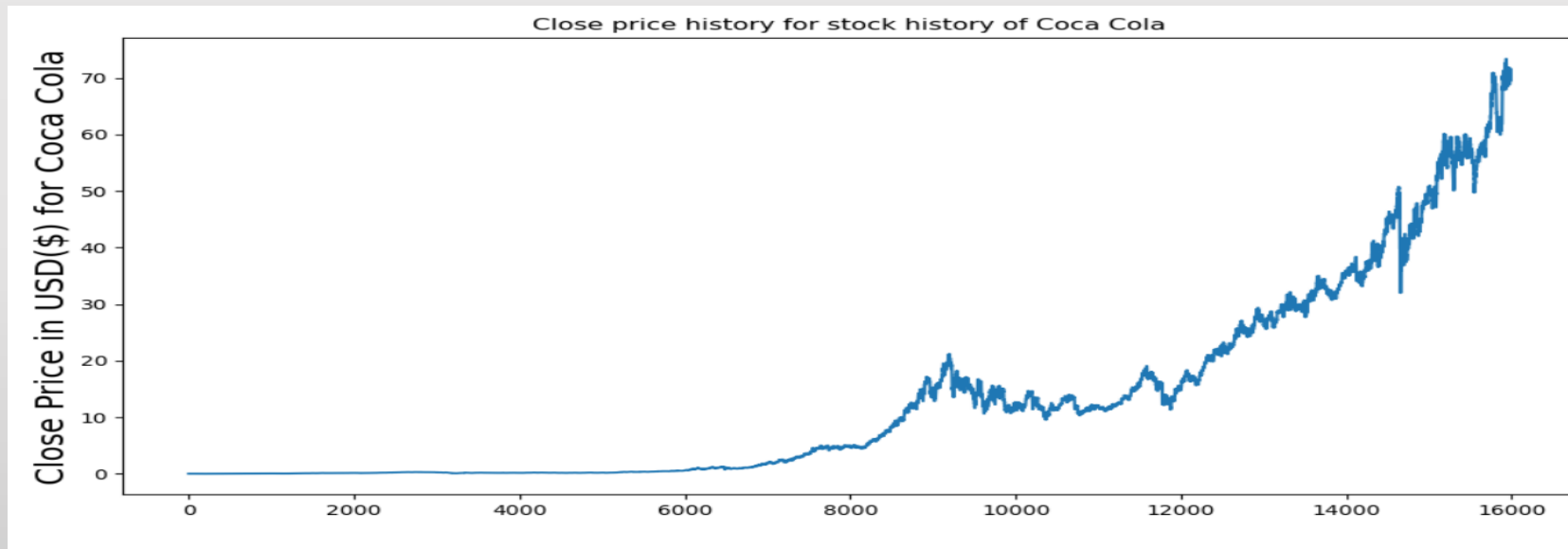
Data Analysis and Visualisation results

Coca Cola stock attributes



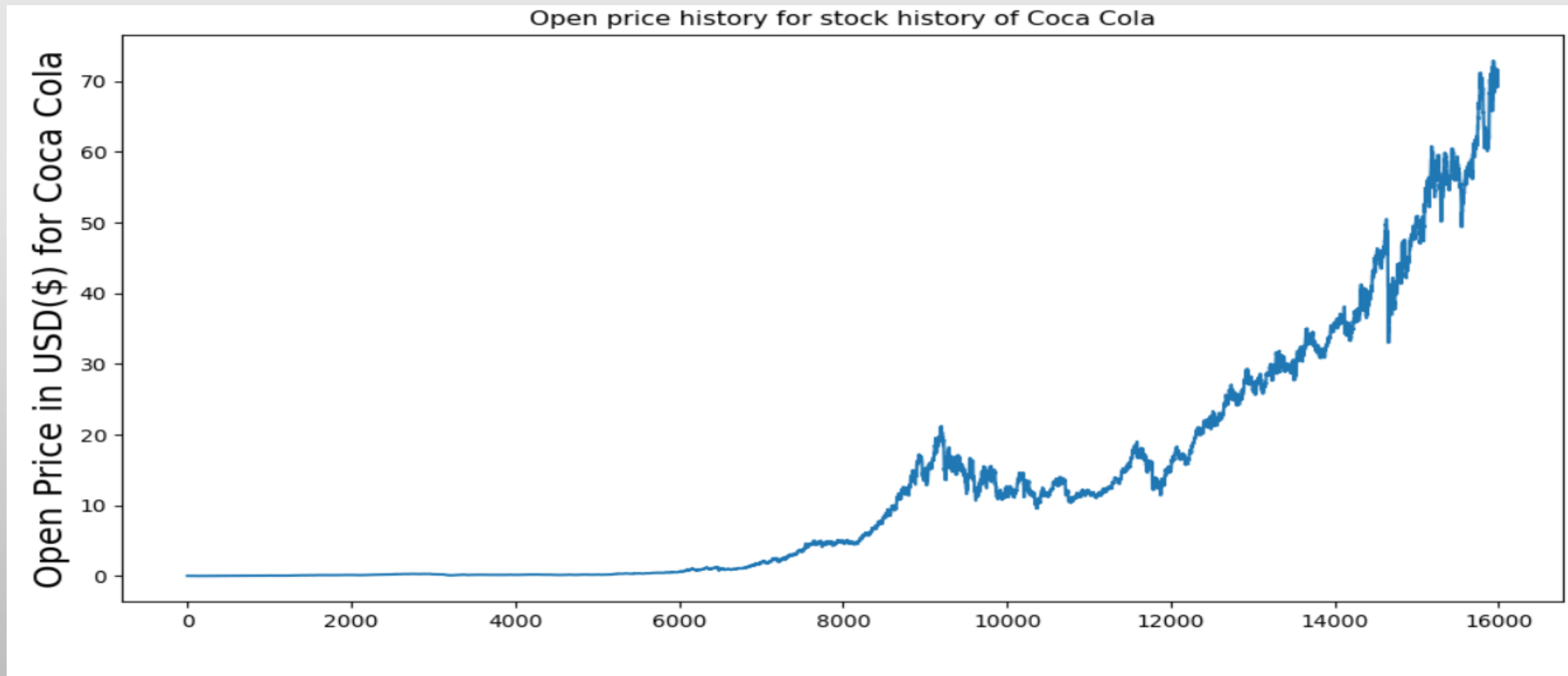
Data Analysis and Visualisation results

Close price trend



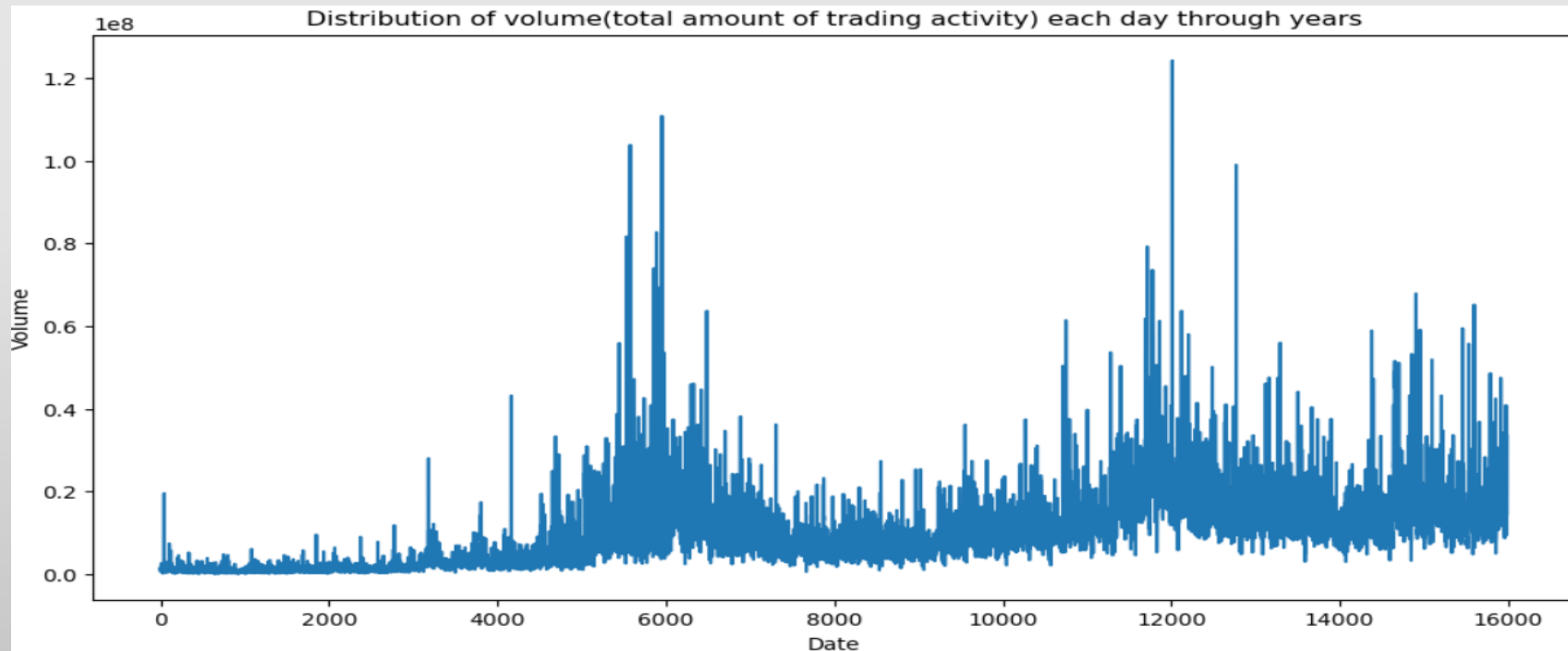
Data Analysis and Visualisation results

Open price trend



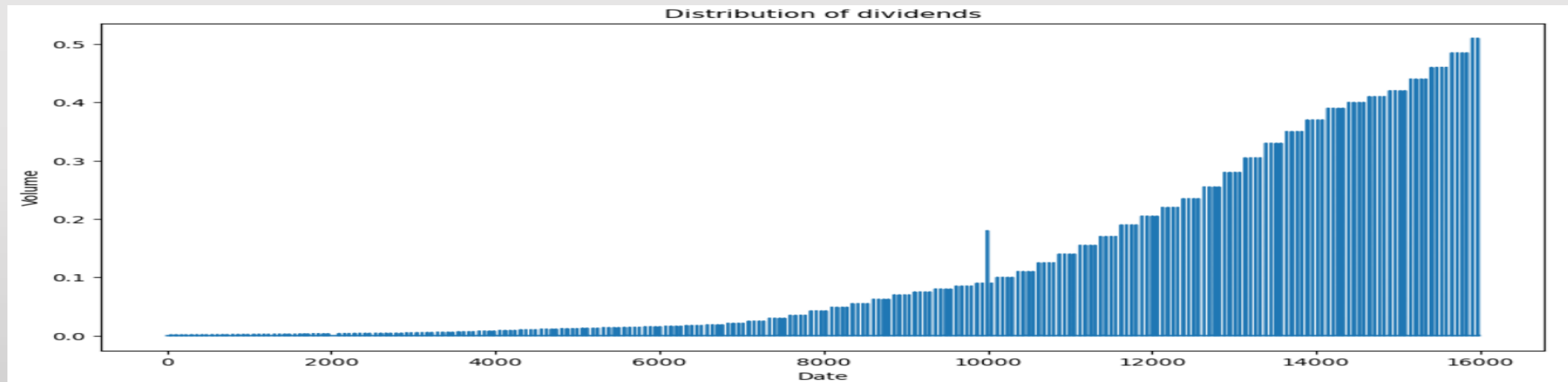
Data Analysis and Visualisation results

Distribution of volume through years



Data Analysis and Visualisation results

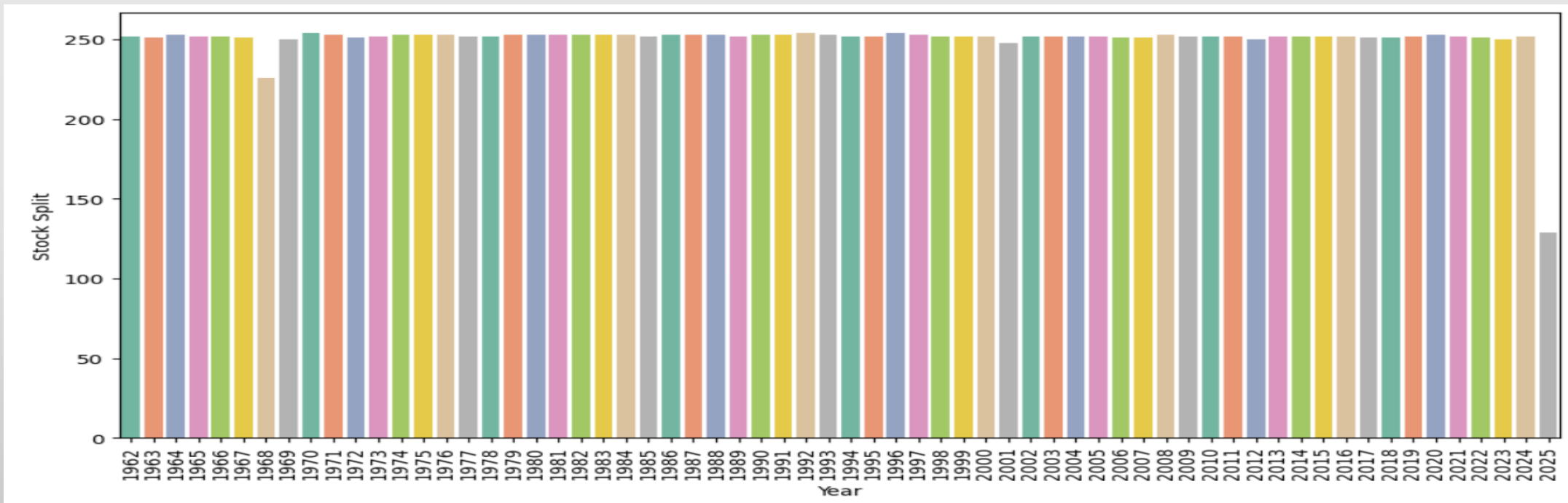
Distribution of Dividends



Distribution of dividends has increased over the years.

Data Analysis and Visualisation results

Stock splits trend



The stock splits follow a constant trend.

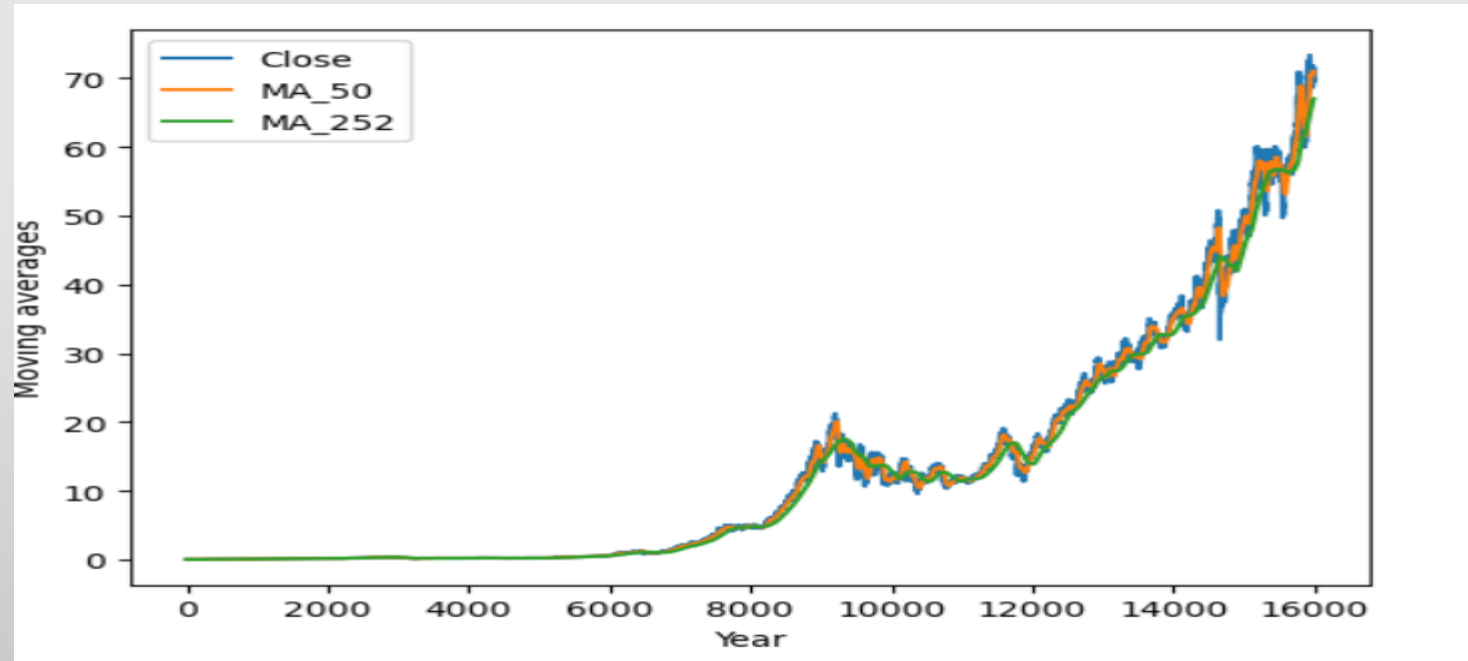
Feature Engineering

New features for financial indicators such as moving averages, daily return, bull power, bear power, average true range, volume flow indicator, buy pressure, sell pressure etc are created for further analysis of the stock . After feature engineering data frame consists of following features.

```
Data columns (total 31 columns):
#      Column      Non-Null Count  Dtype
---  -
0      Date        16000 non-null    datetime64[ns, America/New_York]
1      Open        16000 non-null    float64
2      High        16000 non-null    float64
3      Low         16000 non-null    float64
4      Close       16000 non-null    float64
5      Volume      16000 non-null    int64
6      Dividends   16000 non-null    float64
7      Stock Splits 16000 non-null    float64
8      Year        16000 non-null    int32
9      MA_20       16000 non-null    float64
10     MA_50       16000 non-null    float64
11     MA_252     16000 non-null    float64
12     RSI        16000 non-null    float64
13     Average_True_Range 16000 non-null    float64
14     On_Balance_Volume 16000 non-null    float64
15     Volume_Flow_indicator 16000 non-null    float64
16     Volume_Weighted_Average_Price 16000 non-null    float64
17     Exponential_Moving_Average_50 16000 non-null    float64
18     ADX         16000 non-null    float64
19     William%R   16000 non-null    float64
20     MFI         16000 non-null    float64
21     MOM         16000 non-null    float64
22     macd        16000 non-null    float64
23     macd_signal 16000 non-null    float64
24     Buy_Pressure 16000 non-null    float64
25     Sell_Pressure 16000 non-null    float64
26     Bull_power   16000 non-null    float64
27     Bear_power   16000 non-null    float64
28     Daily_Return 16000 non-null    float64
29     Price_Up_or_Down 16000 non-null    int32
30     Volatility   16000 non-null    float64
dtypes: datetime64[ns, America/New_York](1), float64(27), int32(2), int64(1)
```

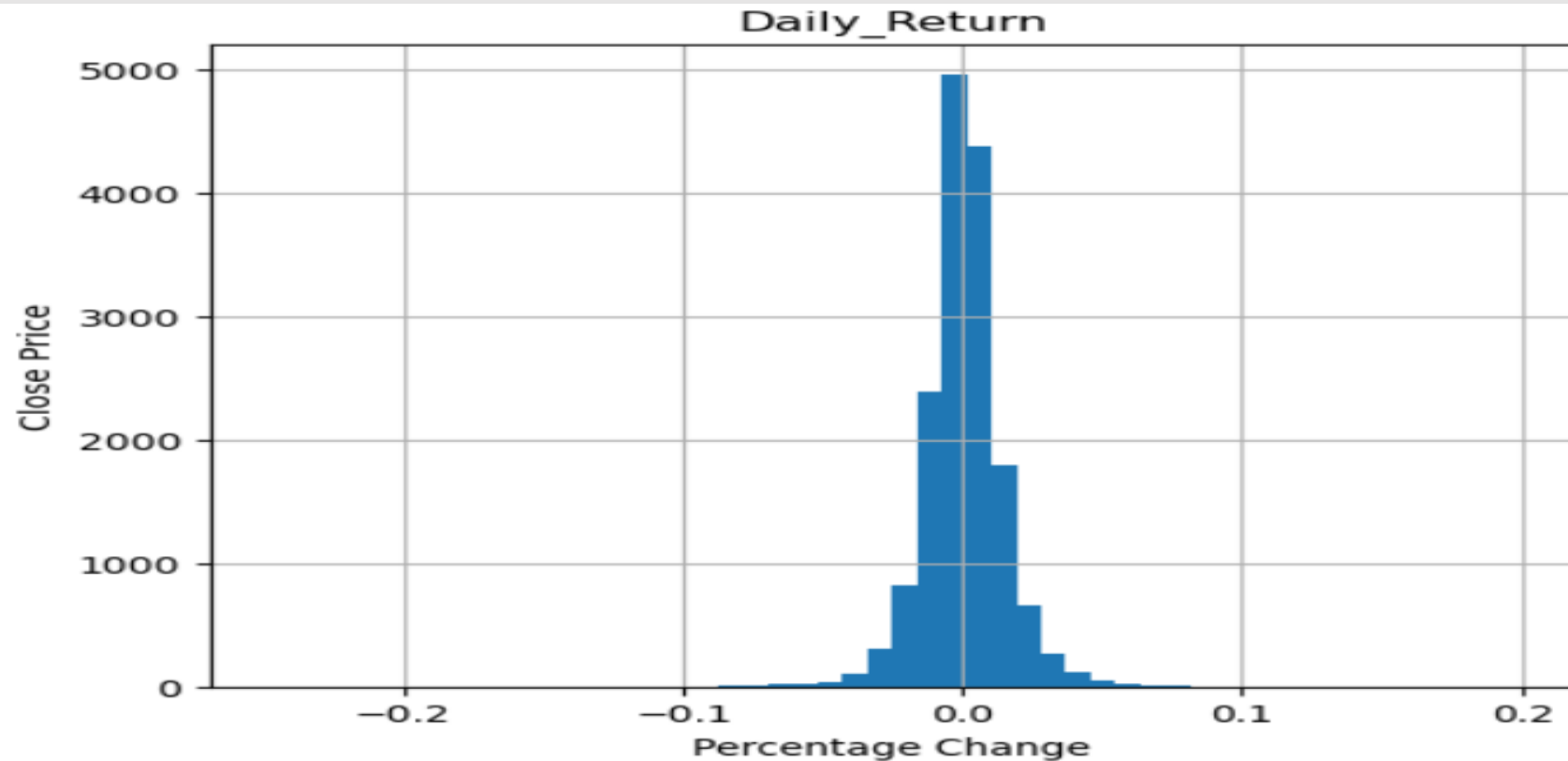
Data Analysis and Visualisation results

Moving averages trend



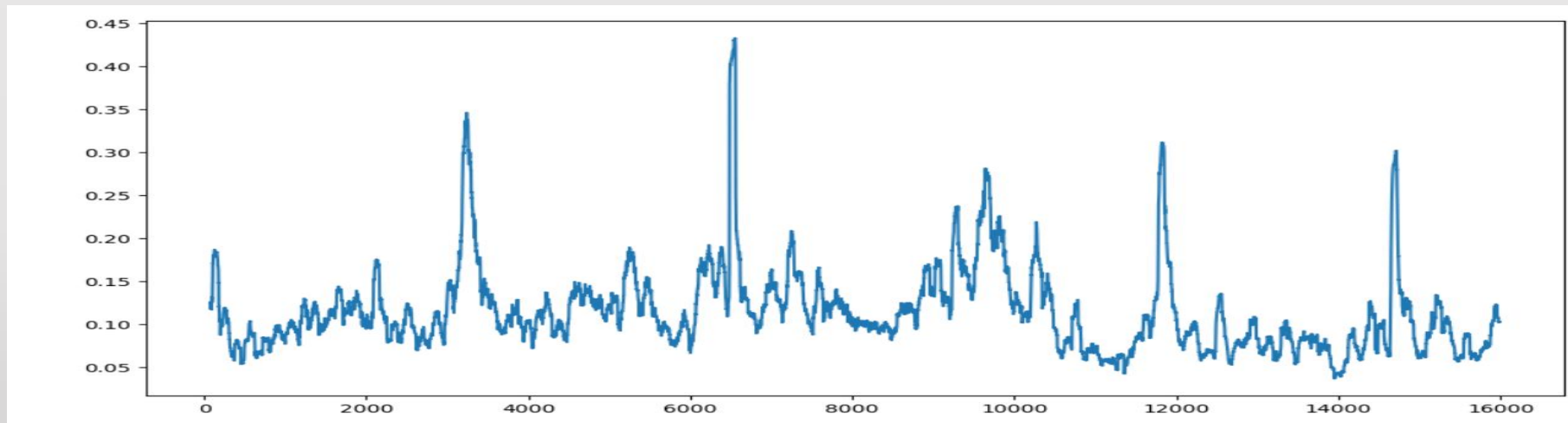
Data Analysis and Visualisation results

Distribution of percentage change in close price



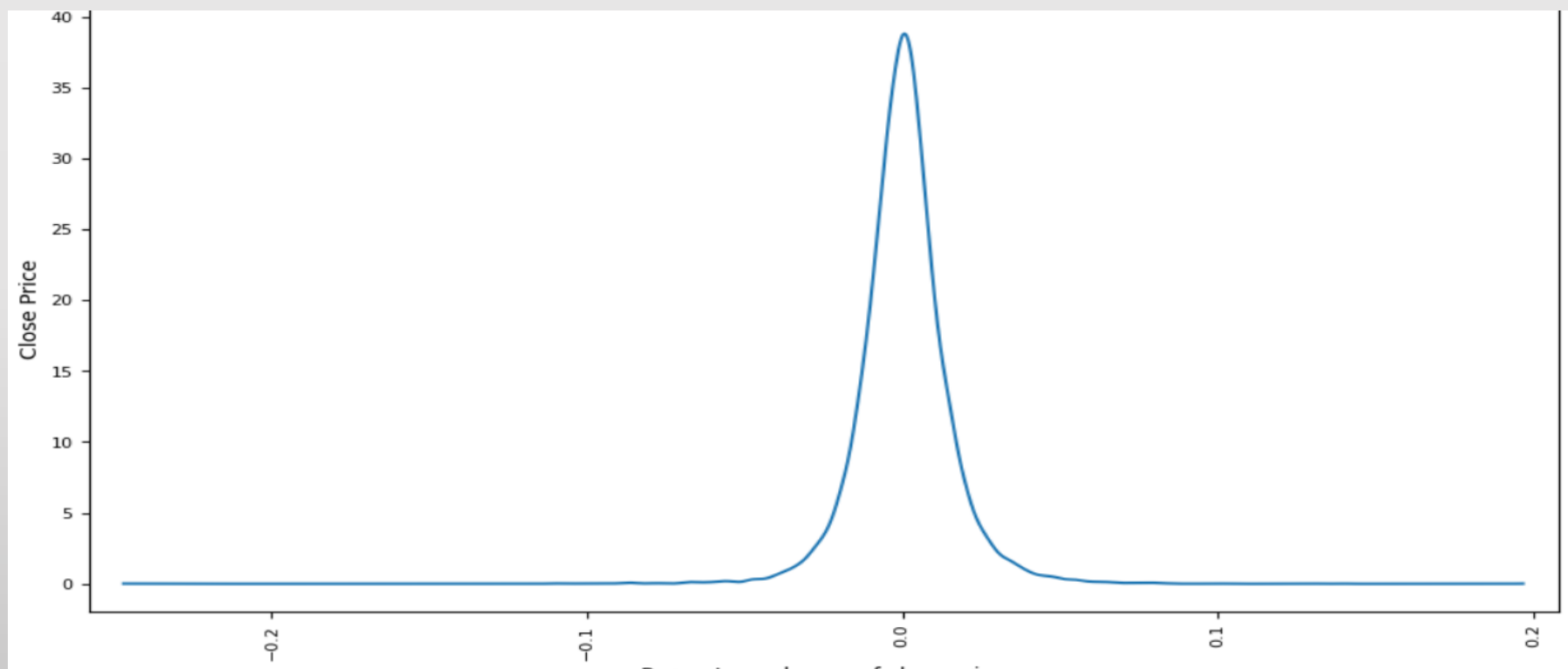
Data Analysis and Visualisation results

Is the stock volatile?



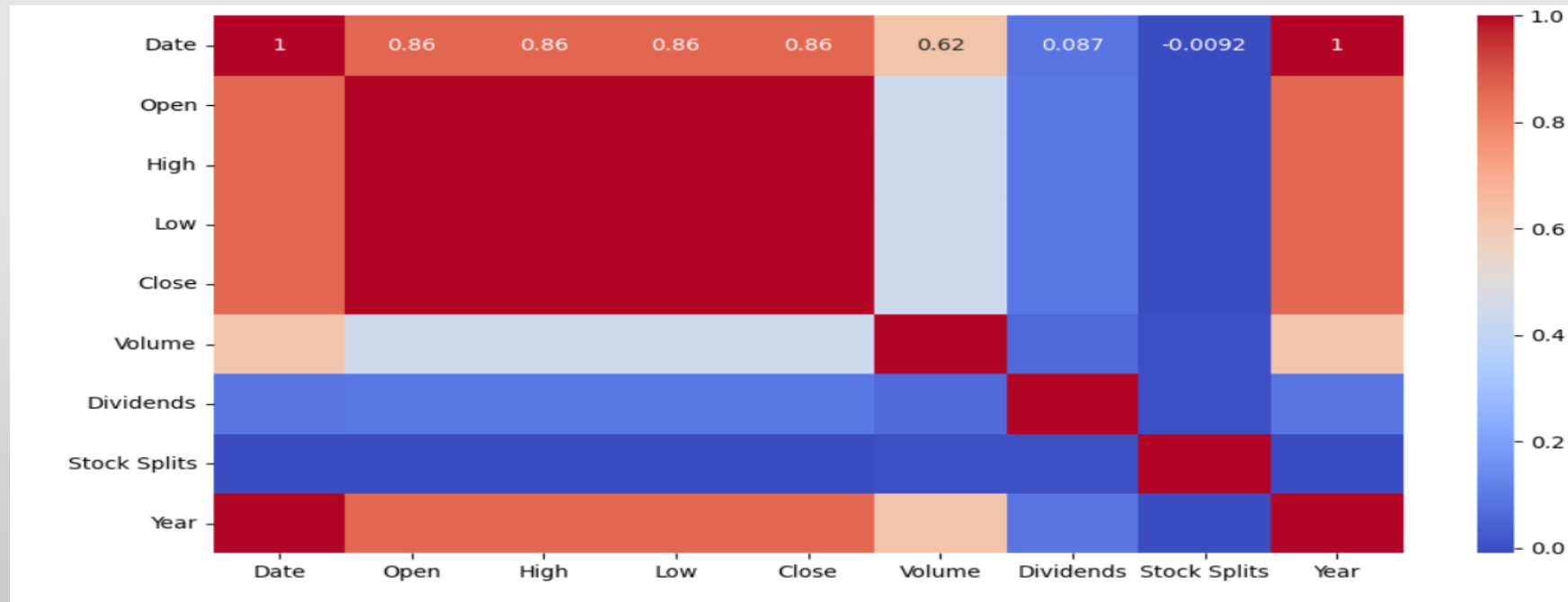
The stock is highly volatile.

Data Analysis and Visualisation results

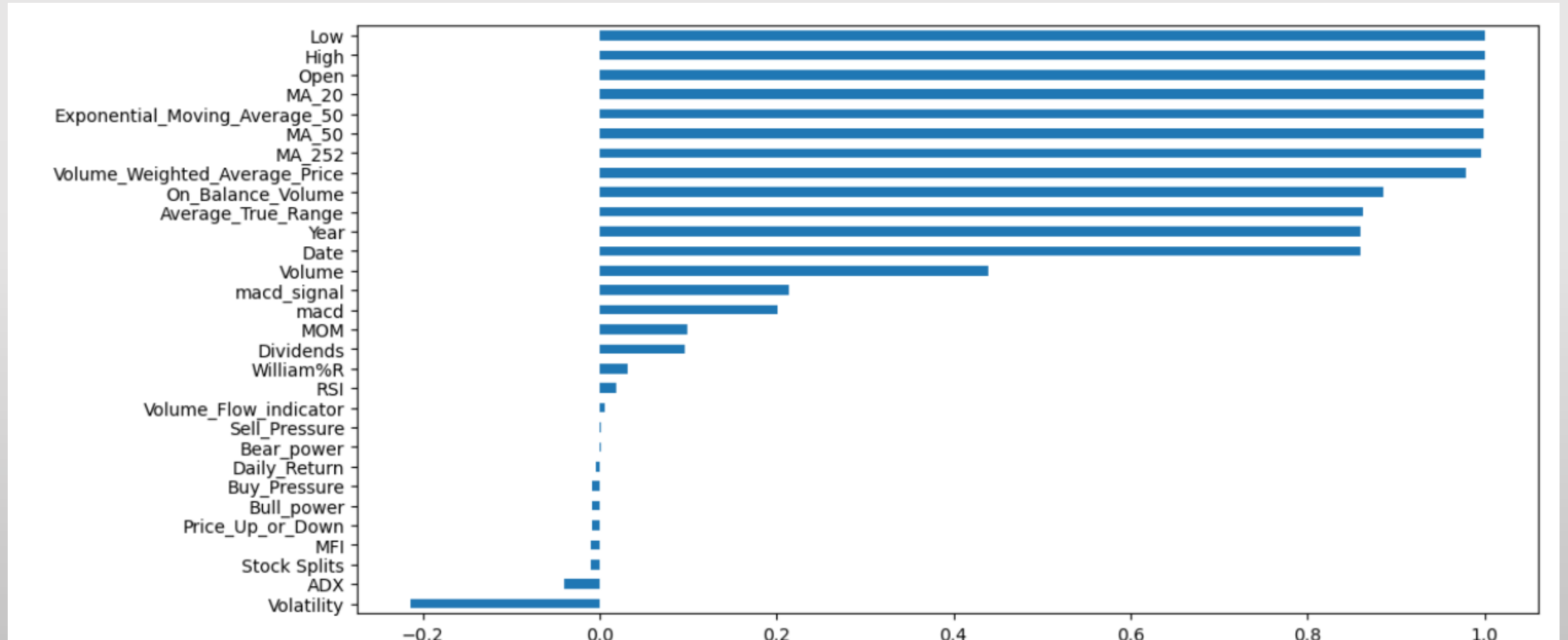


Data Analysis and Visualisation results

Correlation analysis



Feature importances visualisation



Model Building and Evaluation

The data is subjected to train-test-split with 20% test data. The dataset is subjected to machine learning algorithm RandomForestRegressor and a model initialised and fitted with training data and predicted the close prices.

Mean Squared Error is 0.01421544694827629

R² Score is 0.9999480991225451

The predicted results are saved in a .csv file.

Model Deployment

A web application is developed using Streamlit to display analysis and predictions and the application is launched in the web browser.

Findings and Implications

- The trend of stock is bullish.
- The closing price has increasing trend over the years with current closing price at 69.37.
- The opening price has increasing trend over the years with current open price 68.33.
- The volume has increased over the years with current volume 16215500.
- The dividends distribution has increased over the years.
- The stock split follows a constant trend.
- The moving averages shows an increasing trend.
- The stock is volatile.
- The buy pressure is higher than sell pressure.

Conclusion

- The coca cola stock's open price, close price, dividends distribution has increased over the years.
- The percentage change in close price is less.
- The stock is highly volatile.
- The stock's bull power is higher than bear power.
- The buy pressure is higher than sell pressure.
- Thus, the coca cola stock has a bullish trend.

Future implications and suggestions

The stock will continue its bullish trend. For that the above trend should continue.