STOCK PRICE PREDICTION

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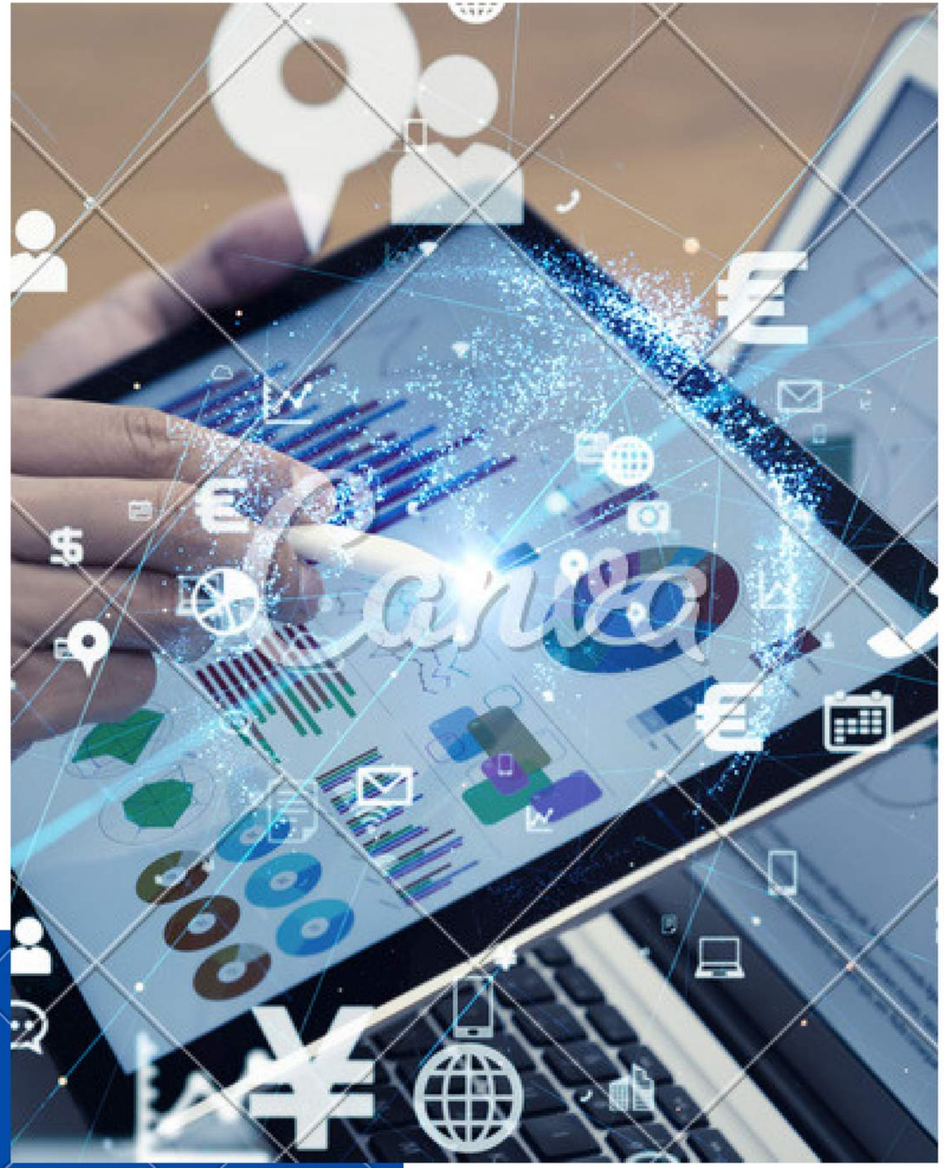


INTRODUCTION

A stock market is a public market where you can buy and sell shares for publicly listed companies. The stocks, also known as equities, represent ownership in the company. The stock exchange is the mediator that allows the buying and selling of shares.

IMPORTANCE OF STOCK PRICE PREDICTION

Stock Price Prediction using machine learning helps you discover the future value of company stock and other financial assets traded on an exchange. The entire idea of predicting stock prices is to gain significant profit. There are other factors involved in the prediction, such as physical and psychological factors, rational and irrational behavior, and so on. All these factors combine to make share prices dynamic and volatile. This makes it very difficult to predict stock prices with high accuracy.

1.IMPORT THE LIBRARIES

```
#Import libraries
import os
import numpy as np
import pandas as pd
import matplotlib.pyplot as pl
%matplotlib inline
```

2.USE THE OPEN STOCK PRICE COLUMN TO TRAIN THE MODEL

```
training_set = dataset_train.iloc[:,1:2]. values
print(training_set)
print(training_set.shape)
[[325.25]
[331.27]
[329.83]
[793.7 ]
[783.33]
[782.75]]
(1258, 1)
```

3.NORMALISING THE DATASET

```
from sklearn.preprocessing import MinMaxScaler
scaler MinMaxScaler (feature_range= (0,1))
scaled_training_set = scaler.fit_transform(training_set)
scaled_training_set
array([[0.08581368],
[0.09701243],
[0.09433366],
[0.95725128],
[0.93796041],
[0.93688146]])
```

4.CREATING X_TRAIN AND Y_TRAIN

```
X_train = []
y_train = []
for i in range(60,1258):
X_train.append(scaled_training_set[i-60:1, 0])
y_train.append(scaled_training_set[i, 0])
X_train = np.array(X_train)
y_train = np.array(y_train)
```

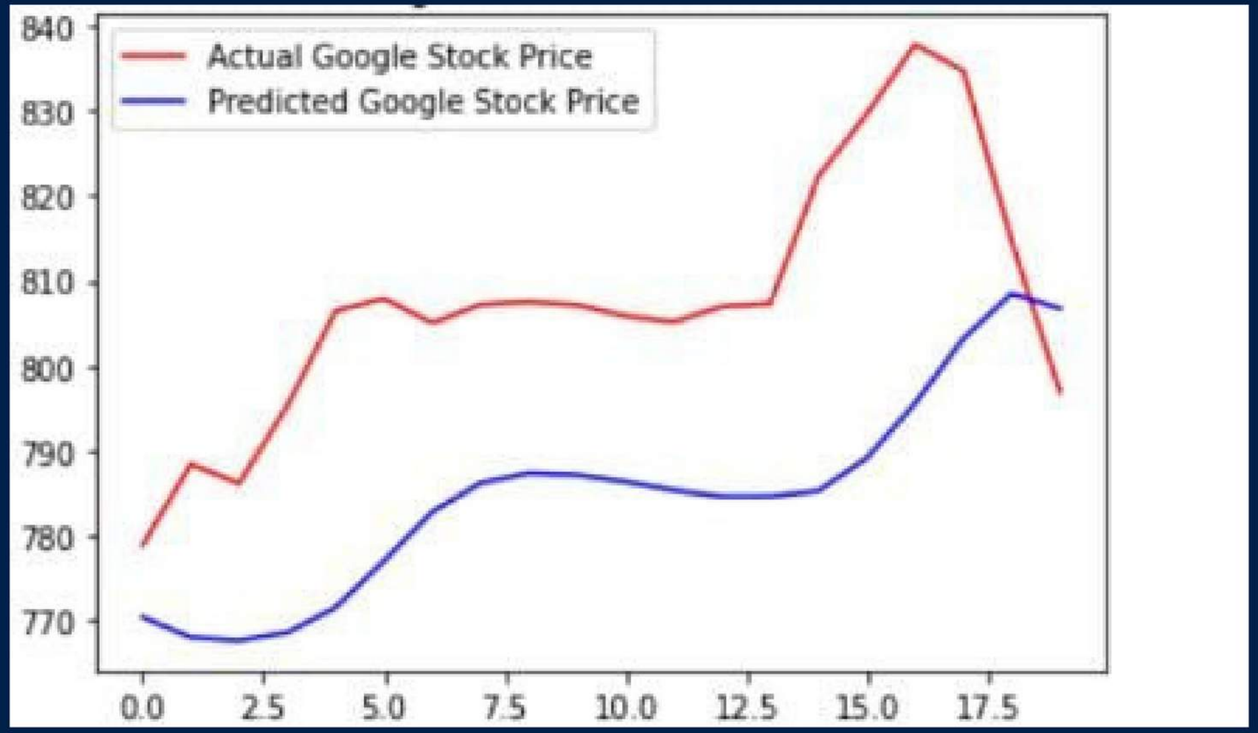
5.BUILDING THE MODEL

```
dataset_total pd.concat((dataset_train [ 'Open'], dataset_test['Open']), axis
= 0) = inputs = dataset_total [len(dataset_total)-
len(dataset_test)-60:].values
inputs = inputs.reshape(-1,1)
inputs = scaler.transform(inputs)
X_test = []
for i in range(60,80):
X_test.append(inputs [i-60:1, 0])
X_test = np.array(X_test)
X_test = np.reshape(X_test, (X_test.shape[0], X_test.shape[1], 1))
```

6.PLOTTING THE ACTUAL AND PREDICTED OUTPUT

```
plt.plot(actual_stock_price, color = 'red', label = 'Actual Google Stock Price')
plt.plot(predicted_stock_price, color = 'blue', label = 'Predicted Google Stock Price') plt.title('Google Stock Price Prediction')
plt.xlabel('Time')
plt.ylabel('Google Stock Price')
```

OUTPUT


Actual Google Stock Price
Predicted Google Stock Price
840
830
820
810
800
790
780
770
0.0
2.5
5.0
7.5
10.0
12.5
15.0
17.5

CONCLUSION

The stock market plays a remarkable role in our daily lives. It is a significant factor in a country's GDP growth. In this tutorial, you learned the basics of the stock market and how to perform stock price prediction using machine learning.

Thank You!
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