

Stock Price Prediction

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Problem statement:

Stock (also known as equity) is a security that represents the ownership of a fraction of a corporation. This entitles the owner of the stock to a proportion of the corporation's assets and profits equal to how much stock they own. Units of stock are called "shares." A stock is a general term used to describe the ownership certificates of any company. Stock prices change everyday by market forces. By this we mean that share prices change because of supply and demand. If more people want to buy a stock (demand) than sell it (supply), then the price moves up. Conversely, if more people wanted to sell a stock than buy it, there would be greater supply than demand, and the price would fall. Understanding supply and demand is easy. So, why do stock prices change? The best answer is that nobody really knows for sure. Some believe that it isn't possible to predict how stocks will change in price while others think that by drawing charts and looking at past price

movements, you can determine when to buy and sell. The only thing we do know as a certainty is that stocks are volatile and can change in price extremely rapidly.

Proposed system solution:

We'll dive into the implementation part of this Project soon, but first it's important to establish what we're aiming to solve. Broadly, stock market analysis is divided into two parts – Fundamental Analysis and Technical Analysis. Fundamental Analysis involves analyzing the company's future profitability on the basis of its current business environment and financial performance. Technical Analysis, on the other hand, includes reading the charts and using statistical figures to identify the trends in the stock market. As you might have guessed, our focus will be on the technical analysis and visualization part. We'll be using a dataset from Google stock Price test and train.

Algorithm and development :

```
import numpy as np
import matplotlib.pyplot as plt
import pandas as pd
```

Data Preprocessing

In [2]:

```
#loading the Data
dataset_train = pd.read_csv('Google_Stock_Price_Train.csv')
```

```
print('shape is = {}'.format(dataset_train.shape))
print(dataset_train.head())
```

```
shape is = (1258, 6)
   Date      Open    High    Low    Close    Volume
0  1/3/2012  325.25  332.83  324.97  663.59   7,380,500
1  1/4/2012  331.27  333.87  329.08  666.45   5,749,400
2  1/5/2012  329.83  330.75  326.89  657.21   6,590,300
3  1/6/2012  328.34  328.77  323.68  648.24   5,405,900
4  1/9/2012  322.04  322.29  309.46  620.76  11,688,800
```

In [3]:

```
training_set = dataset_train.iloc[:,1:2].values
print('shape is ={}'.format(training_set.shape))
print(training_set[0:5])
```

```
shape is =(1258, 1)
[[325.25]
 [331.27]
 [329.83]
 [328.34]
 [322.04]]
```

In [4]:

```
#Visualizing the Data
plt.plot(training_set, color = 'red', label = 'Google Stock
Price in Test set')
plt.xlabel('Time')
plt.ylabel('Google Stock Price')
plt.legend()
plt.show()
```

Result:



Conclusion:

- We can see the Prediction, analysis and Visualization of Google stock Price hough applying Deep learning algorithms such as LSTM, DENSE, DROP OUT and SEQUENTIAL.

- Same way we can use any company Stock Dataset directly apply this algorithms it will give us the correct prediction.
- This System is Successfully runs on any system even on Cloud platforms.