**STOCK PRICE PREDICTION USING ML**

**(Analysis)**

**Stock market:**

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.

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## 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 profits. Predicting how the stock market will perform is a hard task to do.

**Code Analysis:**

1) First we have to import libraries such as Numpy, Pandas and Matplotlib.

2) We have to load the training dataset that is Google Stock Price from 3rd jan 2012 to 30 dec 2016. There are five columns. The Open column tells the price at which a stock started trading when the market opened on a particular day. The Close column refers to the price of an individual stock when the stock exchange closed the market for the day. The High column depicts the highest price at which a stock traded during a period. The Low column tells the lowest price of the period. Volume is the total amount of trading activity during a period of time.

3)Use the open stock price column to train the model.

4)We have to Normalize the dataset since it dramatically improves the model accuracy.

**MinMaxscalar :** MinMaxscalar scales all the data features in the range [0,1] or else in the range[-1,1] if there are negative values in the data set.

**Keras.models import Sequential:**It allows to creat models layer by layer for most problems.

**DROPOUT**:It is a technique where randomly selected neurons are ignored during training.

**DENSE**:It is layer that is deeply connected with its preceding layer.

**STANDARED SCALAR**:It remove the mean and scales each variable to unit variance.

5)creating x\_train and y\_train datastructures

6)Reshape the data.

7)Building the model by importing the crucial libraries and adding different layers to LSTM.

8)Fitting the model

9)Extracting the actual stock prices of jan 2017

10)Preparing the necessary inputs for the model.

11)Predicting the values for jan 2017 stock prices

12)plotting the actual and predicted prices for google stocks

Using LSTM Machine learning technique the prediction of stock price data is simplier. We plot the graph between time and google stock price.

We can clearly see that the difference between actual google stock price and predicted google stock price .For ploting the graph we use Line plot and legend command is given to identify the values in the plot.

**Conclusion:**

The stock market plays a remarkable role in our daily lives. It is a significant factor in a country's GDP growth .We predicted the future stock movement of shares using the LTSM model .Predicting the stock market was a time consuming procedure .However with the application of machine learning for stock market forcast the procedure has become much simplier.

Machine learning not only saves the time and resources but also out performs people in terms of performance .

It will always refer to use a train computer algorithm since it will advise you based only on facts ,numbers and data and will not factering emotions or prejudice.