AANKALAN DATA ANALYTICS COMPETITION

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AIM

This project aims to analyse the given dataset on stock prices, deduce meaningful insights and create a predictive model to predict the future stock prices.

TECH STACK USED

The entire analysis has been done on a web based computing platform : JUPYTER NOTEBOOK. Various python libraries have been used to plot graphs as well as create the predictive model.

- Numpy
- Pandas
- Matplotlib
- Sklearn
- Tensorflow

DATA PREPROCESSING

The dataset provided was quite sorted with no missing values and major alternate data types. No such skewed values or outliers have been detected as such.

However, the date column required some preprocessing. Instead of a string object, the date had to be converted into date-time object for further analysis.

DATA VISUALIZATION

Dependencies of various parameters as well as time-series analysis of various predictive factors were plotted to reveal important patterns and insights in the data.

DATA VISUALIZATION

'open' and 'close' indicates the opening prices and closing prices of stocks for the day respectively. Closing prices being an important parameter is plotted against the time frame to study their trends over the time.

'high' and 'low' indicates the highest prices and the lowest prices respectively recorded for the day in between the opening and closing of the stock prices for the day.

DATA VISUALIZATION

The daily volume was also plotted for the entire range of time to analyse the volume of stocks sold over the given time frame.

Daily percentage change was also calculated from the closing prices to check the daily returns over the time frame. Daily returns and daily volume being important parameters in stock market have been analysed. Finally, pair plots of all relevant parameters have been plotted to check for existing dependencies amongst them.

PREDICTIVE MODELLING

Predictive model has been made using the machine learning model LSTM to predict the future stock prices.

The stock market prices are something which fluctuates very rapidly and exhibits volatile nature as it is dependant on so many factors. The predicted prices from this model can be found from the graph plotted.

THANK YOU