Crude Oil Price Prediction

The crude oil price has a huge impact on the world's economy. From the past few years, crude oil price fluctuates more than any other commodities prices. As the crude oil price depends on several external factors and there is high volatility predicting crude oil prices is very challenging. Long Short-Term Memory (LSTM) based on a recurrent neural network has shown better results in predicting prices that have high volatility. By utilizing this model, the significant crude oil price is evaluated and modelled. The exhibition of the proposed model is assessed by utilizing the valuable information in the WTI unrefined petroleum markets. The exploratory results show that the proposed model achieves increments in the expected precision of results. The data required is collected from the official website of Kaggle.

Problem Statement:

Oil demand is inelastic, therefore the rise in price is good news for producers because they will see an increase in their revenue. Oil importers, however, will experience increased costs of purchasing oil. Because oil is the largest traded commodity, the effects are quite significant. A rising oil price can even shift economic/political power from oil importers to oil exporters. The crude oil price movements are subject to diverse influencing factors.

This Guided Project mainly focuses on applying Neural Networks to predict the Crude Oil Price. This decision helps us to buy crude oil at the proper time. Time series analysis is the best option for this kind of prediction because we are using the Previous history of crude oil prices to predict future crude oil. So we would be implementing RNN (Recurrent Neural Network) with LSTM (Long Short Term Memory) to achieve the task.

Solution:

This Guided Project mainly focuses on applying Neural Networks to predict the Crude Oil Price. This decision helps us to buy crude oil at the proper time. Time series analysis is the best option for this kind of prediction because we are using the Previous history of crude oil prices to predict future crude oil. So we would be implementing RNN (Recurrent Neural Network) with LSTM (Long Short Term Memory) to achieve the task.

We use the concept of Artificial Neural Network and Machine Learning To predict the price of Crude Oil More Accurately Than other existing Models. The main

advantage of artificial neural network is that it continuously captures the unstable pattern and variations of crude oil price.

Ideas to be Implemented:

- Download/Create dataset.
- Augment the dataset
- Pre-process the data and load the data into Pandas DataFrame.
- Perform a Train Test Split on the dataset.
- Define the model creation function: adding all the neural network layers required.
- Fit the model on train data and check for accuracies using test data as well.
- Save the model and its dependencies.
- Build a Web application using flask that integrates with the model built.

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