

LITERATURE SURVEY

CRUDE OIL PRICE PREDICTION

USING ARTIFICIAL INTELLIGENCE

ABSTRACT:

Over millions of years ago, the remains of these animals and plants were covered by layers of sand, slit and rock. Heat and Pressure from these layers turned the remains into what we now call crude oil or petroleum. Crude oil is a naturally occurring petroleum product composed of hydrocarbon deposits and other organic materials. A type of fossil fuel, crude oil is refined to produce usable products including gasoline, diesel and various other forms of petrochemicals and it is a limited resource.

INTRODUCTION:

Globally, crude oil is one of the important fuel sources and historically, has contributed to over a third of the world's energy. Many economists view crude oil as the single most important commodity in the world as it is currently the primary source of energy production. Oil is especially important to businesses that rely on fuel, such as airlines, plastic producers, and agricultural business.

In 2019, global oil consumption reached 10075 million barrels per day considering data from the International Energy Agency(IEA). The crude oil demand has increased due to expeditious economic growth. Since crude oil price series are generally considered to be non linear and non stationary time series, they can be accurately influenced by several factors; therefore, accurately predicting the price of oil can be quite challenging.

There are innumerable ways and approaches which are being used and have been used for predicting the prices of crude oil, one of the most common techniques which are used is by accepting the current statistics and prices and assuming it to be the same for future without any change at all in the prices, however, such a prediction never works now as the nature of oil is extremely volatile. This study aims to design a method of estimating the price level for crude oil. The proposed method is the prediction of crude oil using Artificial Intelligence.

SIGNIFICANCE:

- Price differences can stem from various reasons, such as where the oil is produced, transportation costs, political and economic conditions in the regions where the oil is sold, and refining costs.
- Because of Political issues and climatic conditions, the price will fluctuate according to the events and it becomes hard to predict its price.
- Prior knowledge of crude oil price must be considered among the key parameters needed to make a proper decision towards development, production processes and government for short term and long-term planning, hence any rise or fall in crude oil price has a measurable effect on the economy.

OVERVIEW:

This comparative study is conducted concentrating on the following aspects: downloading dataset, cleaning the dataset, Visualising the existing and historical prices, modelling methods, and pre-processing techniques. The results provide a comparison of various evaluation metrics of these machine learning techniques and their reliability to predict crude oil price by analysing the historical and existing data.

TECHNIQUES USED:

We will be using algorithms like support vector machines, Linear Regression, KNN and LSTM. The technique used behind crude oil price prediction is LSTM. It is a special kind of recurrent neural network that is capable of learning long term dependencies in data. It is a machine learning algorithm based on unsupervised learning. A RNN can process not only single data points, but also entire sequences of data.

We will collect the dataset and we will train and test the data with the above mentioned algorithms. After the analysis of the collected data. We will do the exploratory analysis, by importing some of the machine learning libraries like Pandas, Matplotlib, Sklearn, Seaborn, Statsmodels, Scipy, Keras with Tensorflow Backend, Plotly, Tensorflow, Scikit learn, PyTorch, etc. Then finally the price of the crude oil is predicted and the accuracy is checked. After checking the model, we will be building an application using HTML and Flask.

LITERATURE SURVEY:

Multiple factors are considered and used for building and analysing this model. Artificial intelligence plays a vital role in this project as we are predicting the future prices. Recurrent Neural Networks are used in this project. Various datas are collected and used for the purpose.

CONCLUSION:

Prediction of future crude oil price is considered a significant challenge due to the extremely complex, and dynamic nature of the market and stakeholders' perception. In this business model, we have to generate revenue by creating a suitable technology through collecting the statistical reports on crude oil prices and their fluctuations. In this business model, we will help companies and governments to generate revenue by creating a suitable application through collecting the statistical reports of crude oil prices and their fluctuations using artificial intelligence.

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