Project Development Phase

Model Performance Test

Date	10 November 2022
Team ID	PNT2022TMID49608
Project Name	Project - Crude Oil Price Prediction
Maximum Marks	10 Marks

Model Performance Testing:

Project team shall fill the following information in model performance testing template.

S.No.	Parameter	Values
1.	Model Summary	Determining effective and efficient approach in predicting highly complex and volatile price like crude oil is a critical and challenging task in an economy of a nation. Most of the prediction techniques are designed focusing on statistical and econometrics point of view which has been helpful in numerous scenarios, however prediction using powerful AI tool like the LSTM of the DL is very rare. In this paper, we proposed a new crude oil price prediction technique based on complex network analysis and LSTM. In order to evaluate the effectiveness and robustness of the technique, we conducted the experiment on ten (10) different prices of crude oil across the world used by other researchers. From the experiment conducted we can conclude that, during the training process, the selection of batch size and number of LSTM layers has a great influence on the objective function value, fitting effect, and running time. The appropriate batch size and number of LSTM layers can effectively improve the model. Compared with the traditional and classic econometric prediction method, the model selects more datasets over a longer period of time as training samples. The LSTM prediction model has higher precision and wider application scenarios. The LSTM model can clearly predict the trend of crude oil price in the next time period.
2.	Accuracy	Training Accuracy -90% Validation Accuracy –above 90%