

LITERATURE REVIEW

Crude Oil Price Prediction

Neha Sehgal¹·Krishan K. Pandey have proposed a review and evaluation for oil price forecasting by Artificial intelligence methods. The following price forecasting techniques have been covered in that paper: 1) Artificial neural network, 2) support vector machine, 3) wavelet, 4) genetic algorithm and 5) hybrid systems. The review reveals procedure of AI methods used in complex oil price related studies.

Karathanasopoulos, A., Zaremba, A., Osman, M. and Mikutowski, M. (2019) Oil Forecasting Using Artificial Intelligence. The motivation for this research paper is the application of two novel models in the prediction of crude oil index. The first model is a generic deep belief network and the second model is an adaptive neural fuzzy inference system. Furthermore we have to emphasize on the second contribution in this paper which is the use of an extensive number of inputs including mixed and autoregressive inputs.

Abdul Aziz karia, Imbarine Bujang, Ismail ahmad have posted a paper on Forecasting on Crude Palm Oil Prices Using Artificial Intelligence Approaches. An accurate prediction of crude palm oil (CPO) prices is important especially when investors deal with ever-increasing risks and uncertainties in the future. Therefore, the applicability of the forecasting approaches in predicting the CPO prices is becoming the matter into concerns. In this study, two artificial intelligence approaches, has been used namely artificial neural network (ANN) and adaptive neuro fuzzy inference system (ANFIS).

Nalini Gupta and Shobhit Nigam posted a paper on Crude Oil Price Prediction using Artificial Neural Network. They propose a contemporary and innovative method of predicting crude oil prices using the artificial neural network (ANN). The main advantage of this approach of ANN is that it continuously captures the unstable pattern of the crude oil prices which have been incorporated by finding out the optimal lag and number of the delay effect that controls the prices of crude oil. Variation of lag in a period of time has been done for the most optimum and close results, we then have validated our results by evaluating the root mean square error and the results obtained using the proposed model have significantly outperformed.

Yanhuai Chen, Kaijian He and Geoffrey K.F.Tso have proposed a paper on Forecasting Crude Oil Prices: a Deep Learning based Model. In this paper, they use the deep

learning model to capture the unknown complex nonlinear characteristics of the crude oil price movement and further propose a new hybrid crude oil price forecasting model based on the deep learning model. Using the proposed model, major crude oil price movement is analyzed and modeled. The performance of the proposed model is evaluated using the price data in the WTI crude oil markets. The empirical results show that the proposed model achieves the improved forecasting accuracy.

Ani Shabri have posted a paper on Daily Crude Oil Price Forecasting Using Hybridizing Wavelet and Artificial Neural Network Model. In this a new method based on integrating discrete wavelet transform and artificial neural networks (WANN) model for daily crude oil price forecasting is proposed. The discrete Mallat wavelet transform is used to decompose the crude price series into one approximation series and some details series (DS). The new series obtained by adding the effective one approximation series and DS component is then used as input into the ANN model to forecast crude oil price. The relative performance of WANN model was compared to regular ANN model for crude oil forecasting at lead times of 1 day for two main crude oil price series, West Texas Intermediate (WTI) and Brent crude oil spot prices. In both cases, WANN model was found to provide more accurate crude oil prices forecasts than individual ANN model.

Y. Jeevan Nagendra Kumar have posted a paper on the topic Crude Oil Price Prediction Using Deep Learning. 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.