Crude Oil Price Prediction
Literature Survey

Forecasting Crude Oil Prices: a Deep Learning based Model,YanhuiChen,KaijianHe,Geoffrey K.F.Tso :

In this paper, a proposed hybrid crude oil price forecasting model based on the deep learning model is proposed. The deep learning model is employed to capture the unknown complicated nonlinear aspects of the crude oil price movement. Major crude oil price movements are examined and simulated using the suggested model. The suggested model depicts significant price changes for crude oil and is examined and modeled. The empirical findings demonstrate that the suggested model improves predicting accuracy. It warrants more investigation into developing some novel forecasting models based on various deep learning model types.

A new approach for crude oil price prediction based on stream learning,Shuang Gao , Yalin Lei :

In this paper, Shuang Gao proposes a novel method for predicting the price of crude oil based on stream learning, a fresh approach to machine learning. Since the model is regularly updated anytime new oil price data become available with very little constant overhead, the key benefit of our stream learning technique is that the prediction model can capture the changing trend of oil prices. By contrasting the streaming learning model with three other well-known oil price prediction models, researchers can assess its forecasting capacity. The experiment's findings demonstrate that, across a range of forecast time horizons, our stream learning model obtains the maximum accuracy in terms of mean squared prediction error and directional accuracy ratio.

Machine learning approach for crude oil price prediction with Artificial Neural Networks-Quantitative (ANN-Q) model

The volatility of the crude oil market and its chain effects to the world economy augmented the interest and fear of individuals, public and private sectors. Previous statistical and econometric techniques used for prediction, offer good results when dealing with linear data. Nevertheless, crude oil price series deal with high nonlinearity and irregular events. The continuous usage of statistical and econometric techniques for crude oil price prediction might demonstrate demotions to the prediction performance. Machine Learning and Computational Intelligence approach through combination of historical quantitative data with qualitative data from experts' view and news is a remedy

proposed to predict this. This paper will discuss the first part of the research, focusing on (i) the development of Hierarchical Conceptual (HC) model and (ii) the development of Artificial Neural Networks-Quantitative (ANN-Q) model.

Analysis and forecasting of crude oil price based on the variable selection-LSTM integrated model

In recent years, the crude oil market has entered a new period of development and the core influence factors of crude oil have also changed. Thus, we develop a new research framework for core influence factors selection and forecasting. Firstly, this paper assesses and selects core influence factors with the elastic-net regularized generalized linear Model (GLMNET), spike-slab lasso method, and Bayesian model average (BMA). Secondly, the new machine learning method Long short-term Memory Network (LSTM) is developed for crude oil price forecasting.

Then six different forecasting techniques, random walk (RW), autoregressive integrated moving average models (ARMA), elman neural Networks (ENN), ELM Neural Networks (EL), wavelet neural networks (WNN) and generalized regression neural network Models (GRNN) were used to forecast the price. Finally, we compare and analyze the different results with root mean squared error (RMSE), mean absolute percentage error (MAPE), directional symmetry (DS). Our empirical results show that the variable selection-LSTM method outperforms the benchmark methods in both level and directional forecasting accuracy.