Hindusthan
College of Engineering and Technology
An Autonomous Institution

CRUDE OIL PREDICTION

BACHELOR OF ENGINEERING

IN

COMPUTER SCIENCE & ENGINEERING

Submitted by

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Team ID: PNT2022TMID10046, Project – Crude Oil Price Prediction

Under the guidance of

Mr . T. K. P. Rajagopal

ABSTRACT

- **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.**

INTRODUCTION

- **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.**

Literature Review 1

- Title : **A novel crude oil price trend prediction method: Machine learning classification algorithm based on multi-modal data features**
- Author : **HuiziHe, MeiSun**
- Abstract : **Reliable forecasting of crude oil price has received a prodigious attention by both investment companies and governments. Motivated by this issue, this paper seeks to propose a new hybrid forecasting model for crude oil price trend prediction. For this purpose, the crude oil price series is initially decomposed by variational mode decomposition algorithm, and the multi-modal data features are extracted based on the decomposed modes.**

Literature Review 2

- Title : **A Multi-recurrent Network for Crude Oil Price Prediction**
- Author : **Oluwatamilore Orojo , Jonathan Tepper**
- Abstract : **Crude oil is fundamental for global growth and stability. The factors influencing crude oil prices and more generally, the oil market, are well known to be dynamic, volatile and evolving. Subsequently, crude oil prediction is a complex and notoriously difficult task. In this paper, we evaluate the Multi-recurrent Network (MRN), a simple yet powerful recurrent neural network, for oil price forecasting at various forecast horizons. Although similar models, such as Long Short-Term Memory (LSTM) networks, have shown some success in this domain, the MRN is a comparatively simplified neural network model which exhibits complex state-based memories that are both flexible and rigid.**

Literature Review 3

- **Title** : **Crude Oil Price Prediction using Artificial Neural Network**
- **Author** : **NaliniGupta, ShobhitNigam**
- **Abstract** : **Crude oil is amongst the most important resources in today's world, it is the chief fuel and its cost has a direct effect on the global habitat, our economy and oil exploration, exploitation and other activities. Prediction of oil prices has become the need of the hour, it is a boon to many large and small industries, individuals, the government. The evaporative nature of crude oil, its price prediction becomes extremely difficult and it is hard to be precise with the same. Several different factors that affect crude oil prices**

Literature Review 4

- Title : **A new approach for crude oil price prediction based on stream learning**
- Author : **ShuangGao , YalinLei**
- Abstract : **Crude oil is the world's leading fuel, and its prices have a big impact on the global environment, economy as well as oil exploration and exploitation activities. Oil price forecasts are very useful to industries, governments and individuals. Although many methods have been developed for predicting oil prices, it remains one of the most challenging forecasting problems due to the high volatility of oil prices.**

Literature Review 5

- Title : **Prediction of movement direction in crude oil prices based on semi-supervised learning**
- Author : **HyunjungShin , TianyaHou**
- Abstract : **Oil price prediction has long been an important determinant in the management of most sectors of industry across the world, and has therefore consistently required detailed research. However, existing approaches to oil price prediction have sometimes made it rather difficult to implement the complex interconnected relationship between the price of oil and other global/domestic economic factors**

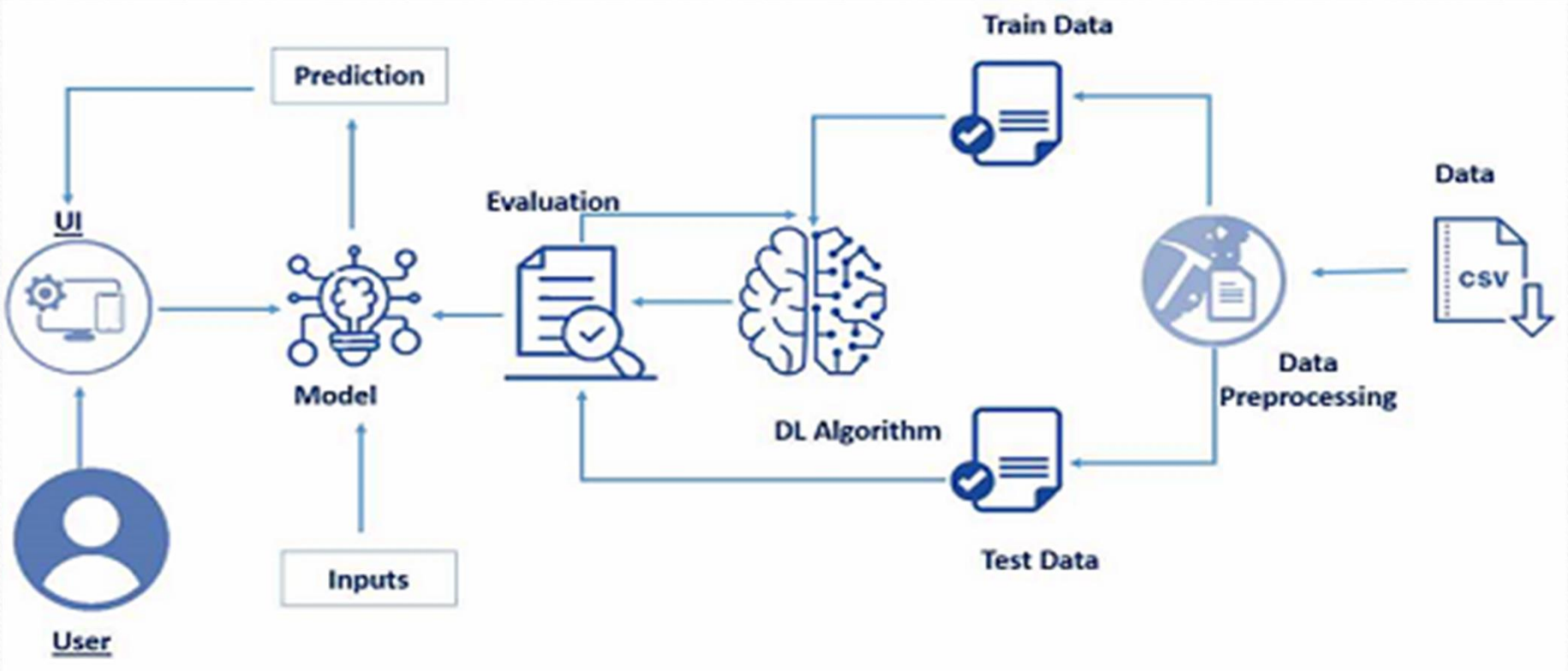
Literature Review 6

- **Title** : **Prediction of crude oil viscosity curve using artificial intelligence techniques**
- **Author** : **M.A.Al-Marhoun , S.Nizamuddin**
- **Abstract** : **Viscosity of crude oil is an important physical property that controls and influences the flow of oil through rock pores and eventually dictating oil recovery. Prediction of crude oil viscosity is one of the major challenges faced by petroleum engineers in production planning to optimize reservoir production and maximize ultimate recovery.**

Literature Review 7

- **Title** : **Prediction of crude oil prices in COVID-19 outbreak using real data**
- **Author** : **OznurOztunç Kaymak, YiğitKaymak**
- **Abstract** : **The world has been undergoing a global economic recession for almost two years because of the health crisis stemming from the outbreak and its effects have still continued so far. Especially, COVID-19 reduced consumer spending due to social isolation, lockdown and travel restrictions in 2020. As a result of this, with social and economic life coming to a standstill, oil prices plummeted. With the ongoing uncertainty concerning the COVID-19 pandemic, it has been of great importance for all economic agents to predict crude oil prices**

Technical Architecture



THANK YOU