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OIL MARKET ANALYSIS USING DEEP LEARNING

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ABSTRACT

Nowadays oil and its attributes are creating problem worldwide. Any industry which processes oil has huge demand under make in India abhiyan by Mr.Narendra Modi. But the crucial factor is to understand purchasing pattern, area segregation, their gradation and their results. This project will process data using big data concept of CNN(Convolution Neural Network) and analyze patterned and unpatterned behaviour of human nature. This project will also compare price, gradation, customer location, range. This entire process will help us to understand variation and deviation among attributes. To study above problem we are using big data sets given by international studies and research institute. Our co-sponsor Sunlube Tech also has bigdata sets for study of oil attributes. This method achieves 51.7% industrial demands, 26.6% for ransportation, 13.9% residential and 7.8% commercial demands.

Keywords : CNN, Deep Learning, Non patterned

I. INTRODUCTION

Without any doubt, the physical production of energy is the basis of the global economy. Development of the economy depends on the different resources of energy. Even most of economic sectors such as commercial, industrial and transportation are impossible to operate without energy. India has to fulfil its requirement by importing the goods like crude oil. Due to start ups and new investments there is a very big market for lubricant industry. Availability of plenty of choices can make a new user confused about which good to be purchased. Hence to help the new generation of business men in our country, we have given a solution in this paper. So that they can focus on business without wasting time on surveying about oil prices, manufacturers and location of dealers. Just by entering requirements one can get all the available resources.

II. TECHNOLOGIES USED

2.1 Hadoop

Hadoop is an open-source framework that allows to store and process big data in a distributed environment across clusters of computers using simple programming models. It is designed to scale up from single servers to thousands of machines, each offering local computation and storage. Hadoop is an Apache Open Source framework written in java that allows distributed processing of large datasets across clusters of computers using simple programming models. A Hadoop frame-worked application works in an environment that provides distributed storage and computation across clusters of computers. Hadoop is designed to scale up from single server to thousands of machines, each offering local computation and storage.

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2.2 HDFS storage

HDFS holds very large amount of data and provides easier access. To store such huge data, the files are stored across multiple machines. These files are stored in redundant fashion to rescue the system from possible data losses in case of failure. HDFS also makes applications available to parallel processing.

Features of HDFS :

[1.] It is suitable for the distributed storage and processing.

[2.] Hadoop provides a command interface to interact with HDFS.

[3.] The built-in servers of name node and data node help users to easily check the status of cluster.

[4.] Streaming access to file system data.

[5.] HDFS provides file permissions and authentication.

2.3 Deep Learning

Deep learning (also known as deep structured learning, hierarchical learning or deep machine learning) is a branch of machine learning based on a set of algorithms that attempt to model high level abstractions in data by using a deep graph with multiple processing layers, composed of multiple linear and non-linear transformations. Deep learning is part of a broader family of machine learning methods based on learning representations of data. An observation (e.g., an image) can be represented in many ways such as a vector of intensity values per pixel, or in a more abstract way as a set of edges, regions of particular shape, etc. Some representations are better than others at simplifying the learning task (e.g., face recognition or facial expression recognition. One of the promises of deep learning is replacing handcrafted features with efficient algorithmsfor unsupervised or semisupervised feature learning and hierarchical feature extraction.

Deep learning algorithms are based on distributed representations. The underlying assumption behind distributed representations is that observed data are generated by the interactions of factors organized in layers. Deep learning adds the assumption that these layers of factors correspond to levels of abstraction or composition. Varying numbers of layers and layer sizes can be used to provide different amounts of abstraction.

Deep learning exploits this idea of hierarchical explanatory factors where higher level, more abstract concepts are learned from the lower level ones. These architectures are often constructed with a greedy layer-by-layer method. Deep learning helps to disentangle these abstractions and pick out which features are useful for learning. For supervised learning tasks, deep learning methods obviate feature engineering, by translating the data into compact intermediate representations akin to principal components, and derive layered structures which remove redundancy in representation. Many deep learning algorithms are applied to unsupervised learning tasks. This is an important benefit because unlabeled data are usually more abundant than labeled data. Examples of deep structures that can be trained in an unsupervised manner are neural history compressors and deep belief networks.

III. EQUATIONS

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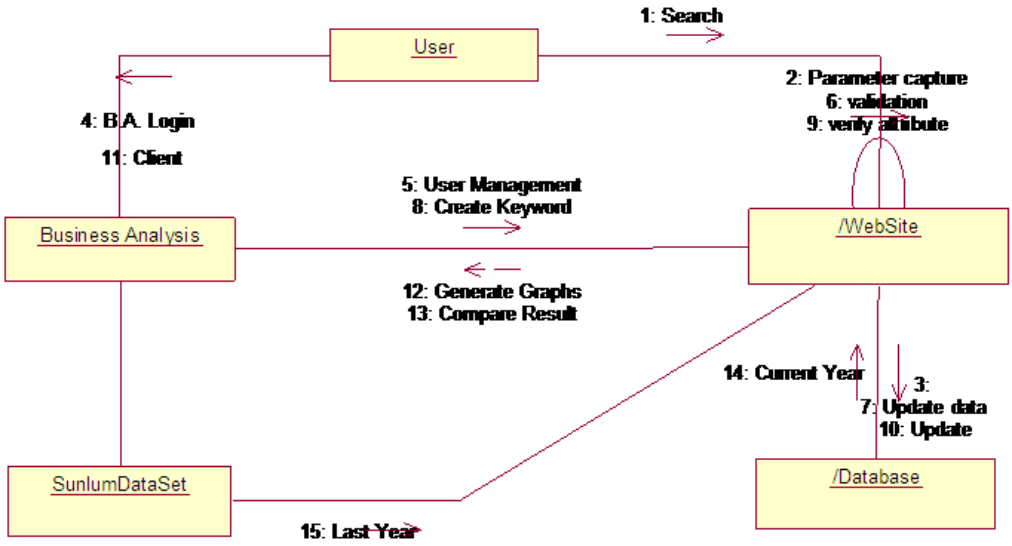
$$S = \sqrt{\frac{\sum_{i=0}^{n}(X_i - \bar{X})^2}{n-1}} \quad (1)$$

Where the $\bar{X}$ presents the mean that is calculated using the following formula

$$\bar{X} = \frac{\sum_{i=0}^{n} X_i}{n} \quad (2)$$

And X_i is an individual of the population.

3.1 Figure



IV. ALGORITHM

4.1 Step 1: Login with two user roles

- Login with Admin
- Login with Big Data Analyst

4.2 Step 2: Add Querying by Big Data by admin

4.3 Step 3: call Standard Deviation function

- Gets U (Planning) as Input to WC
- For i=0 to 7 //sum = Sum(Price, grade, Customer type, area)
- Visit i (Big data Page) when logged in by normal user
- Go to step 2 till Sum
- Output as Tabular Data

4.4 Step 4: call to Sub Function

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- Get CP (daily data) as input
- Call Function summation Function
- Get Relevant Information of positive, negative, neutral comments

4.5 Step5: Display Result in the graphical form – Display Comparison.

4.6 Step 6: Stop.

V. CONCLUSION

In this paper we have proposed that CNN can be used for classification of oil makers and oil types, according to input given by user so that user can easily get information of available oil types in market according to their requirements. We can also analyze scope of oil manufacturer and stability as per attribute like price, geographical area, density, grade etc. and customer can focus on market plan to be executed pan India. It can be used in oil industry for defining price policy.

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