

A Review paper on various applications of Big data

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Abstract: Big data is one of the current affair field for work and future research attractions for the bigger of researches. Big data will changes at a great rate in various fields like business, the scientific research. There are mostly researchers used 3V and 4V for defining the concept of big data. First V is having a specified size data i.e. volume, second V define the frequent rate of data i.e. velocity, third V defines heterogeneity of data types and sources.Last V will be extended by researchers according to special requirement. Forth V can be value, variability or virtual. Big data this is the concept of collection of data sets which is very large in size and very complex behavior so that it has become very difficult to process the data. This paper gives a review on various applications based on big data in various fields.

Keywords: Big data

I.INTRODUCTION

Five V's of big data

1. Volume
2. Variety
 - a. Structured (Proper Schema)
 - b. Semi-structured
 - c. Un-structured
3. Velocity
4. Value
5. Veracity

Problem with Big Data Processing.

1. Heterogeneity and Incompleteness

In fact, the a subtle difference in and the quality of being pleasingly deep of natural language can provide valuable depth. However, machine analysis algorithms expect of the same kind of data, and cannot understand differentiate it. In a result, data must be carefully structured as a first step in (or prior to) data analysis. Computer systems work most in a well-organized and competent way. if they has stored multiple items that are all exactly alike in size and structure.

2. Scale

Any one first thought about the size of data so managing very large data is not so easy for any organization. This become very challenging task for every. So this technology having more scope to research.

3. Timeliness

To process large data set it required more time to get the analysis or get value added data. So there is a necessity of system that deals with the size of data and sending the output quickly. Rather, there is an acquisition rate challenge.

4. Privacy

The privacy in the big data is another huge concern, and one that increases scope of the new researchers in the Big Data. For storing records about health in electronic form, there are strict laws governing what can and cannot be done. Managing security in such a manner as to achieve a desired result by both a technical and a sociological problem, which must be representing jointly from both perspectives to realize the promise of big data.

5. Human Collaboration

There are various computational analysis algorithms are available but they may take more time to find the result so it is better to making some patterns, those are easily understand by human and detect output quick.

II. Literature Survey

Samiya Khan , Xiufeng Liu, Kashish A. Shakil , Mansaf Alam they talk about recently trends of big data, there has been a main on focus of organizations and governments towards digitization of academic and technical documents, adding a new concept of digital libraries. They carry out a systematic identification on the existing challenges in development of a big scholarly data platform, with specific focus on directions for future research and maps them to the different phases of the big data lifecycle.[1]

Jharna Majumdar*, Sneha Naraseeyappa and Shilpa Ankalaki researched in agriculture field the farmers and agribusinesses has to make too many to be counted decisions every day and intricate complexities involves the various factors influencing them.

An challenging issue for agricultural planninghaving aim is that accurate yield estimation for the numerous crops. Environmental conditions,different types of soil, input levels, combinations and commodity prices have made it all the more relevant for farmers to use information and get help to make critical farming decisions. [2]

III. ROLE OF BIG DATA

1. In Data Mining:

Decision trees are used in the data mining concept. The process of extracting the useful data from the Big data is called data mining technique. This technique is used by the big data analysts for the processing and managing of data.

2. In BDA (Big Data Analytics Applications):

It is the new category of the software application. Hadoop technique is used in this application to analyze the data. In this technique the analysis is done by the developers in a small scale. After that the whole data in the analysis process. Big Data Analytics Application is a new concept of software application, which examine big data using massive parallel processing framework i.e. Hadoop. Designers of these applications typically program them using a small sample of data. After that these applications deployed in a large-scale cloud environment with having considerably more power for processing and having larger input data.

3. In clustering:

Clustering is also a technique which is used in managing and processing of Big data. K-means algorithm is used in this technique. It helps to identify the similar groups of data and collaborate in one cluster. Using clustering technique a simple point and click dialog is used, users can automatically find groups within data based on specific data dimensions. With clustering, it is then become so simple to identify and address groups by customer type, text documents, products, patient records, click path, behaviour, purchasing patterns.

4. In banking:

In the banking sector, Big data is used at large scale. As we know that banking sector includes important information regarding customer's earning, savings, insurance policies etc. So the banking sector uses the Big data for the sake of security purposes. The use of customer data on every transaction raises privacy issues. By remove a cover hidden connections between apparently not related pieces of data, big data analytics could potentially reveal sensitive personal information.

5. In Agriculture:

In this field, big data is used at very rapid rate. As we all know that crops are totally dependent upon the weather conditions. So, Big data helps to identify the weather conditions by applying different algorithms and tools. A biotechnology firm uses sensor data to optimize crop efficiency. It plants test crops and runs simulations to measure how plants react to various changes in condition. Its big data that provides environment for continuously adjusting for changes in the parameters of various data it collects, like

temperature, water levels, soil composition, growth, output, and gene sequencing of each plant in the test bed etc. These imitation of a situation allow it to discover the optimal environmental conditions for specific gene types.

6. In Medical field:

Now a day's medical department is also using big data in term of storing the large amount of patient information in a particular way. Record of patients, workers, staff members, medicines etc. needs a specific pattern to store and process. Traditionally, the health care industry has showing a delayed effect than other industries in the use of big data, part of the problem subterranean from resistance to change providers are customary to making treatment decisions independently.[3]

7. In Education:

Every college or university have vast amount of data which is very difficult to manage and process. Even storage of date is a difficult task. Every educational department is using big data techniques to store and process the information of student's record and record of teachers and many more.

8. In weather forecasting:

Big data is the term which is widely used in the field of weather forecasting. With the help of K-means clustering and R tool, we can easily predict the weather for upcoming days. This method is also applicable in various fields in which we have to predict the upcoming data.

9. In smart phones:

Big data is the term which is widely used in every field. In today's era, every person have smart phone in their pockets. As in the I phones, there are some applications in which we have to store the person to person data in order to satisfy the android application's requirements. For example, in I phones, there is an app in which we have to store the images for security locks as facial recognition. So the data which is being stored in that application might be in millions. So Big data is used in that type of applications also in order to simplify the uses of modern applications.

10. In Conservation:

Big data helps to keep the data in an isolated, merged and proper format which gives the benefit in business department. Keeping data in a merged, isolated system provides business intelligence benefits and is both financially and ecologically sound.

11. In Finance:

Big data is used to manage the wide range of data including credit cards, checking, savings, mortgages, and investment data. [4] [5]

IV. Conclusion

The main aim of this paper is to explore the role of Big Data in various fields. Big Data is a powerful tool that makes things ease in various fields as said above. Big data used in so many applications they are banking, agriculture, chemistry, data mining, cloud computing, finance, marketing, stocks, BDA, health care etc.

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