Recent Trends in Big Data in Computer Technologies

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ABSTRACT
Big Data (BD) is a recent emerging technology that is a utilized software which incorporates (1) data mining, (2) data storage, (3) data visualization and data sharing collectively used as a Data framework like Hadoop, Spark, Flink used in enterprise organizations. In a larger perception it is being used with the Deep learning, Artificial intelligence and IoT concepts. The Big Data technology is operational and also analytical. This paper discusses the basic concepts and architecture of BD recent trends where the BD technology are being used in the larger cultures and about the advantages of using BD in certain fields and technologies and in cloud computing. Since there are tremendous changes in fields of cloud computing, communication and technology big data will be a boom to store data.

Keywords:-*Big Data, Architecture, Cloud Computing, Android, Technology, Business*

INTRODUCTION

In recent days, the big data technology has been emerging into the enterprise organizations rapidly and it's a very advanced field for data mining, data sharing, data visualization. In problem of large-scale data management and storage big data plays a vital role. The big data has approached both in an operational and analytical concept. The population increases day by day and the data's get increased in fields of astrophysics, healthcare, communication and technology, business, etc. The conventional methods can only help to some level but the big data can be a boom to the technologies and database storage in future. Big data has been coined by Roger Mugalas back in 2005.

ARCHITECTURE

The architecture of big data is shown in Figure1, it denotes the data sources are collected and the stored data's and the real time message ingestions are being batch processed and through the certain technologies like machine learning are been analyzed and batch processed and been reported finally.

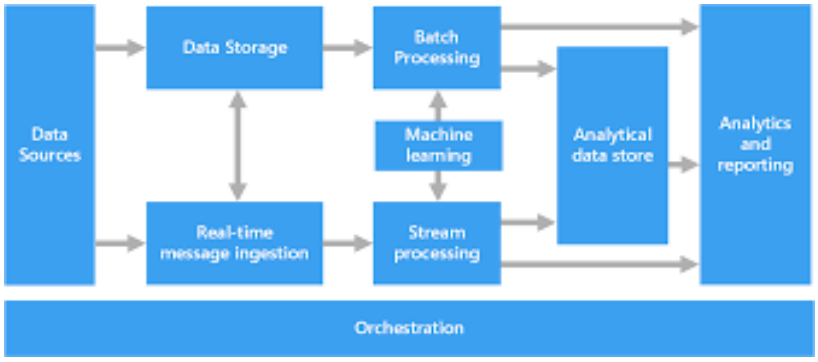

Fig.1:-*Architecture of big data*

CHARACTERISTICS

Volume

It refers to the data being added day by day in organizations, social medias and the data storage must also have the capacity to withstand the data so the volume of bd is higher to manage the data.

Variability

The variability refers to the inconsistency in data and the BD must have the capacity to handle the variability in data.

Velocity

Velocity is referred for the speed of data generation.

Visualization

Visualization is the displaying of charts, graphs, such that handling a perfect data complexity using the pie charts and graphs.

Veracity

The veracity refers with the handling of data with different and similar names and unrelated noises to identify and compare the difference and stores the data in well-organized manner.

TRENDS IN BIG DATA

Big Data in IOT

One of the characteristics of the big data is volume and it's much compatible with the IoT technologies. Big data can be used to store and retrieve larger data's in field of IoT fields and can use the system with the sensors, data transfer, communication, etc. It can store, manipulate, retrieve the larger data with the wide range of data's in social medias, science, healthcare, etc. IoT is acting as a major source for that data, and this is the point where the role of big data in IoT comes into the picture. Big data analytics is emerging as a key to analyzing IoT generated data from connected devices which helps to take the initiative to improve decision making. For example, the experfy, tives, signal frames, etc. are some technologies involving big data and IoT. Tive are incorporating big data from IoT such as it's a cloud platform employs cellular trackers for big shipments for goods.

Big Data in Chat Bot

Big data is a term for data sets that are so large or complex, and hence traditional techniques of data processing may turn out to be inadequate. It is generated on a very large scale from social media websites, multimedia sources and other forms of network related data along with real time data generated from sensors and devices. Big data analytics is the process of examining this large amount of data, to uncover hidden patterns, unknown correlations etc., which may correspond to market trends, customer preferences and other useful information, depending on the origin of the data. The analytical findings can lead to more effective use of the information gained, and can be applied in various fields like marketing, sales, customer care etc.; to improve operational efficiency, to gain competitive advantages and other business benefits. Catching the 3Vs, Chatbots are adequate for communication and gathering information that can then be re-fed into deep learning algorithms, to enhance the intelligence of the bots. Big Data has been defined by the 3Vs: volume, velocity, and variety. For example, Eliza's legacy **c**hatbots might seem like a new toy that just came out of a science fiction movie or one of Asimov's novels, but in fact, the first one nam**e** ELIZA is over 50 years old and was initially programmed to mimic a therapist. Her legacy can be seen in the thousands of chatbots being developed today. The aim is to create algorithms that are sufficiently advanced so that a user could not tell the difference between talking to a machine and a human, much like ELIZA was praised.

CLOUD COMPUTING

A cloud computing is a platform which is used by any business organization over millions of users and even more for data management to facilitate their online

services in a meaningful way. It consists of many application tools & applications including data storage, database, software's and all collaboratively work together to meet the organization's needs. For a simple example to understand: Google drive is a cloud service by GOOGLE where we can store, upload, share many files in excel, pdf or word format. Mostly for all these office applications are being used. Here users can synchronize all digital content across laptops, computers, tablets, even in android mobiles etc.

Benefits of cloud computing:

1. A platform to perform collaboratively
2. Time consumption
3. Flexibility on handling the stored files
4. Reduces the Malware /ransom ware throws
5. Backup/restore options
6. Linked to SharePoint, Notebook, Outlook and many other Office 365 apps
7. Scalability
8. Productivity
9. Interconnective with active software's (used in IT organizations)
10. Access to automatic updates where human work is greatly reduced

Categories of cloud computing:

Infrastructure as a service (Iaas)
Platform as a service (PaaS)
Software as a service (SaaS)
Function as a service (FaaS)

Cloud storage is mainly **OBJECT** storage, **FILE** storage &**BLOCK** storage.

With reference to Big Data we shall have a view how Cloud computing is way helpful and how it works?

Beyond being more technical Big Data is simply a huge block of information stored that is exponentially increasing with time. The main advantage of big data comes through big data analytics where this is used in cloud, businesses are able to analyze and witness large amount of structured information's. It makes data integration from numerous sources easier for many business sectors.

Checking with Big Data vs. Cloud computing, Cloud Computing is economical as it has low maintenance cost, centralized platform, no upfront cost and good implementation benefits whereas Big Data is highly scalable, robust ecosystem and cost effective.

Big data helps the organizations to create new opportunities and entirely new groups of companies can join together for a data work on wider scale.

How is it enabling the Big Data Economy? We have big data for many years but we didn't have the ability to store and analyze data, with cloud computing this has been made possible. Previously companies had to hold the data in their data centers where they had disks of data, the more data they have the bigger the disks became & to analyze it they required a physical reader to analyze the data which they gave them a huge limitation. Thus GOOGLE came up with an idea as they couldn't store the entire internet on a disk and then find the relevant information and came out with is storing bits of the internet on the computers anywhere in the world and having these connected by the internet where users can break the break the analysis if someone wants to search something and they get it in limited time through server means.

For example: In case apple uses iCloud to store the information whether photos, documents etc.

CONCLUSION

The big data analytics are useful worldwide and spread through nations to store, retrieve, visualize the data being stored day to day in many fields like Artificial Intelligence, IOT, Chatbots, Deep learning, Machine learning, Cloud computing the big data are boon to the society and

informational technology and machine learning fields also used in variety of streams like space research, astro physics, information technology, automation, healthcare, management, etc.

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