

Seminar

Characteristics of Big data

Big data contains a large amount of data that is which is used by many ~~multi~~ MNCs to process the data.

There are five V's of Big data that explains the characteristics.

1st Volume. - The name Big data itself is related to enormous size. data is generated ^{daily} from many sources, such as social media platform, machines, business process, etc and many more.

For example, Facebook, it can generate approximately a billion messages, each day. also, 4.5 billion times like button is recorded and 350 million new posts are uploaded.

2nd Velocity - It performs an important roles compared to others. It creates the speed by which the data is created in real-time.

Big data velocity deals with the speed at the data flows from sources like application logs, networks, social media sites, mobile devices, etc.

3rd Variety - Big data can be structured, unstructured and semi-structured. In past years, data was only collected from database and sheets, but these days the data will come from emails, social posts, photos, videos, etc.

data categorized as in

① Structured Data :- It is in a tabular form. Structured Data is stored in R.D.B.M.S.

② Semi-structured :- JSON, XML and email are examples of semi-structured data.

OLTP (Online Transaction Processing) systems are built to work with semi-structured data, stored in tables, relations.

③ Unstructured Data :- All the unstructured files, log files, audio files are included in unstructured data.

④ Quasi structured data :- It contains textual data with inconsistent data formats.

4th Veracity :- Veracity means how much the data is reliable. It has many ways to filter or translate the data.

It is the process of to handle and manage data efficiently.

For examples, ~~Facebook~~^{twitter} ~~Instagram~~ posts with hashtags.

5th Point is Value :- Value is an essential characteristic characteristics of big data. It uses the valuable and reliable data to influence which we stores and process.

They Increases the value of data by collecting it, analysing and reusing.

Next point is Application of Big Data.

Big Data is the valuable and powerful fuel that drives large IT industries. It is used in each business sector as it is a spreading technology.

Health Care -

In Health Care sector, big data has started making a massive difference, with the help of predictive analytics to identify best practices which can improve care and reduce costs.

In Education, There are new emerging fields, which develop various methods for educational environment, Enhancing student results by analysing data which will help educators to understand the behaviour and performance of student.

For Cellphone Users, it analyses the user experience, it provides a detailed analysis of user engagement for every feature and page.

There are ~~five~~ ^{some} areas to focus in Retail sector, which are personalisation for personalized offers and increased revenues.

2nd is eCommere Optimisation ~~for~~ to improve the performance of their online stores to generate greater revenues.

~~Next~~ Next is Brand Evaluation which uses social media channels and online networking platforms.

It helps store owners to comes up with the offer which encourages customers to increase their spending.

The ~~finace~~ financial & banking sector use big data extensively, It helps bank by analysing customers behaviour on the basis of investment, trends, market risks and from personal or financial backgrounds.

Government also uses Big data at high rates, government agencies uses Big data and run many agencies, managing utilities, dealing with traffic jam and effect of crimes like hacking and online fraud.
~~For example, Aalhas card,~~

Big Data Technology Areas.

① Time series is a sequence of observation of categorical or numeric variable indexed by a date,

A clear example of time series is the time series of a stock price.

② NLP is a form of artificial intelligence that helps machines to read text just like human ability to understand language. Rather than single words or combination of them, NLP helps to understand sentences as they are spoken or written by human.

③ Simulation of large amount of data and using it to simulate or mirror real-world conditions to either predict a future instance.

for example, Metaverse.

④ Big data fusion is a research area that ensures the aggregation of data generated. The result of data fusion is that the data are better generated, stored, manipulated and analysed.

⑤ Integration of big data ~~is use~~ uses softwares & services to extract data from sources into meaningful information. Data Integration allows for more effective and quicker data analysis.

⑥ Storing, processing and extracting values from huge data is becoming challenging and machine learning can help to ~~process~~ overcome these challenges.

The more data a system receives, the more it learns to function better. Implementing ML for big data analytics is certainly a technology enhancement which would be ~~use~~ useful for our future.

Thank you.