

**19BCE248**

## **Big Data Analytics**

### **Lab 1**

#### **D2**

**AIM:** To analyze the application of Big Data and justify various applications of it with their classification of types.

### **Auto Driving Car**

To make an autonomous car to work efficiently, the main thing is sensing various signals which should be accurate enough for a car to reach from destination A → B. To make it accurate we need data through which car can make any decisions where comes the role of Big Data. These data are processed, after which numerous calculations are made, such as how many degrees to rotate at, what speed is appropriate, when to stop, etc. Automatic action is aided by these computations.

**Domain:** Google Maps API

**Application:** How google maps API library provided by google can be helpful in our specific domain?

**Description:** As we know that data available is **20 Petabytes** which itself satisfies the condition of why there is need because to handle such data is not an easy task. The main thing about these data is unpredictable because for going from various sources to destination we can have more than one path. Also, apart from these as and when the user selects different path it has to recenter that thing. Using collected data, a driverless car can build strategies for many possible situations on the road. Data sharing between autonomous vehicles will aid in avoiding traffic jams, taking into account weather conditions and reacting to emergencies.

**Type of Data:** Unstructured data

**Domain:** Sensors

**Application:** How can a sensor be helpful to make accurate result in making decisions?

**Description:** As we know that autonomous car requires decision at each and every point so sensors are of much needed in such field. For the same we require ample amount of data

which could be given to sensors and thus sensors can make any meaningful decision from that data. Thus becomes a problem of big data

### **Type of Data:**

Sensing data can either be structured, semi-structured or unstructured.

For e.g.: Making a right or left turn decision depends upon the google map direction and that can have data in either json or xml like format which makes it unstructured or semi-structured type of data.

### References:

- <https://www.geeksforgeeks.org/applications-of-big-data/>
- <https://intellias.com/how-big-data-in-autonomous-vehicles-defines-the-future/>