ASSIGNMENT

INDIVIDUAL TASK-3

UNDERSTANDING BIG DATA AROUND ME

Introduction to Big Data in Everyday Life

Big Data refers to extremely large volumes of structured and unstructured data generated every second from digital activities. While it may sound technical, big data is present in our daily lives—from the moment we wake up and check our phones to when we make online payments or stream videos.

Organizations such as Google, Apple, Amazon, Meta Platforms, and Netflix continuously collect and analyze massive amounts of data to improve user experience and business efficiency.

Big data is commonly defined by the **5 V's**:

1. **Volume** – Huge amounts of data
2. **Velocity** – Speed at which data is generated
3. **Variety** – Different forms of data (text, images, videos, sensor data)
4. **Veracity** – Reliability and accuracy
5. **Value** – Meaningful insights derived from data

This report explains how big data exists around us, how it works, its benefits, challenges and future impact.

Sources of Big Data Around Me

Big data is generated from multiple sources in daily life.

Smartphones and Mobile Apps

Smartphones are one of the biggest data generators. Apps collect:

- Location data
- Search history
- Contacts
- App usage behavior
- Browsing patterns

For example, Google collects search queries to improve search results and personalize advertisements. Similarly, Meta Platforms analyzes social media interactions to suggest friends and content.

Social Media Platforms

Platforms like:

- Instagram
- X
- Snapchat

collect likes, shares, comments, and viewing time to analyze user preferences and trends.

Online Shopping and E-Commerce:

When I shop online through Amazon or similar platforms:

- My browsing history is tracked
- My purchases are recorded
- My payment preferences are stored
- My product reviews are analyzed

This data helps recommend products and predict consumer behaviour.

Banking and Digital Payments

Digital payment platforms like:

- PayPal
- Visa

store transaction data to detect fraud and analyze spending habits.

Smart Devices and IoT

Smartwatches, fitness trackers, smart TVs, and home assistants collect health, voice, and usage data. This is part of the **Internet of Things (IoT)** ecosystem.

How Big Data Works Around Me

Big data operates through several steps:

3.1 Data Collection

Data is collected from:

- Mobile apps
- Websites
- Sensors
- Camera
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Data Storage

Large amounts of data are stored in cloud systems managed by companies like Microsoft and Google.

Data Processing and Analysis

Advanced technologies such as:

- Machine Learning
- Artificial Intelligence (AI)
- Predictive Analytics

are used to find patterns and insights.

Decision-Making

Based on analysis:

- Ads are personalized
- Content is recommended
- Fraud is detected
- Traffic routes are optimized

For example, Google Maps uses real-time traffic data to suggest the fastest route.