

4V's OF BIG DATA

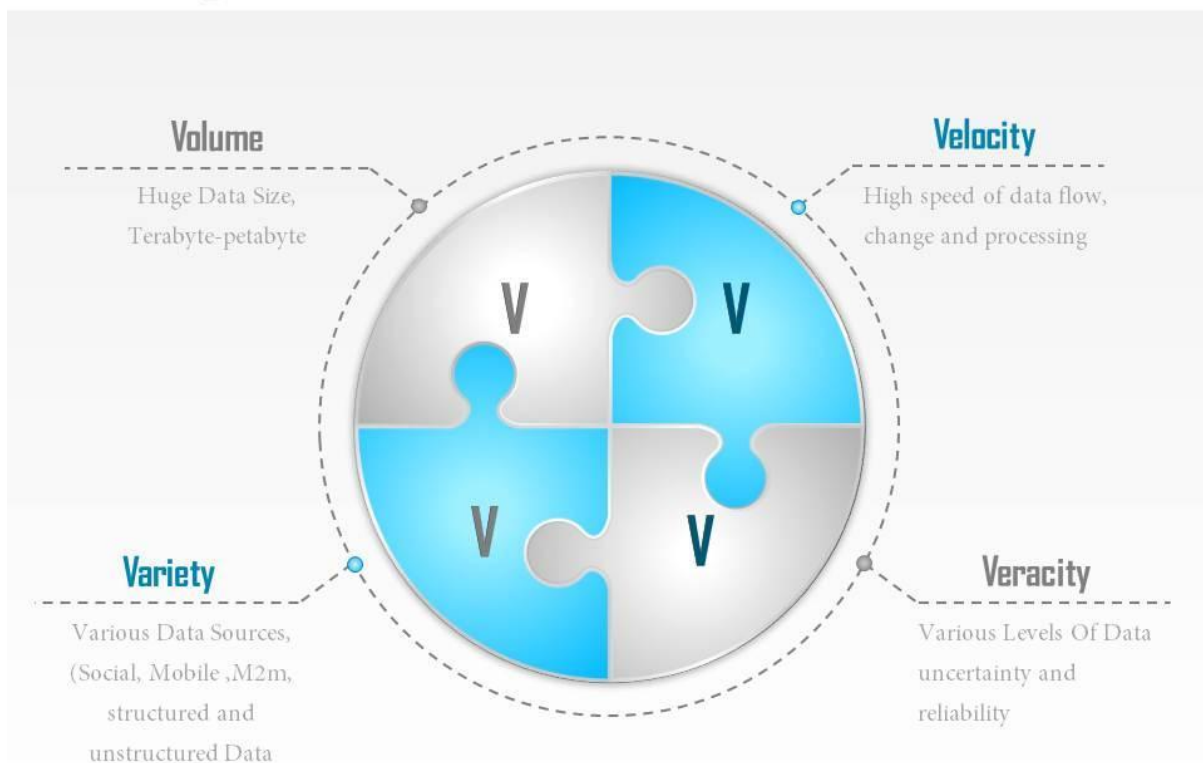
BIG DATA:

Big Data refers to extremely large datasets that may be analyzed computationally to reveal patterns, trends, and associations — especially relating to human behavior and interactions.

To understand Big Data better, it's important to learn about the **4 Vs** that define it:

1. **Volume**
2. **Velocity**
3. **Variety**
4. **Veracity**

4 V's of Big Data



Your Logo

VOLUME:

Volume represents the size of data generated and stored. From social media posts to high-resolution videos, data is growing rapidly:

- Facebook generates over 4 petabytes/day
- Sensors, logs, and mobile apps produce billions of records
- **Challenges:** Storing, processing, and analyzing massive datasets.



VELOCITY:

Velocity is the speed at which data is created, moved, and processed.

- Real-time stock trading systems
- Social media notifications
- IoT devices sending signals every second
- **Challenges:** Real-time analysis and quick response to data changes.



VARIETY:

Variety refers to the **different forms of data**:

- **Structured**: Tables, rows, numbers
- **Unstructured**: Images, audio, video
- **Semi-structured**: XML, JSON, logs
- **Challenge**: Integrating and analyzing diverse formats.



VERACITY:

Veracity is about the **quality and reliability of data**.

- Data might be incomplete, noisy, or biased
- Example: Fake reviews or incorrect sensor data
- **Challenge**: Cleaning, filtering, and ensuring trustworthy input.

