HW-Topic-6
Data Acquisition, Modeling and Analysis: Big Data Analytics

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Big Data Technologies
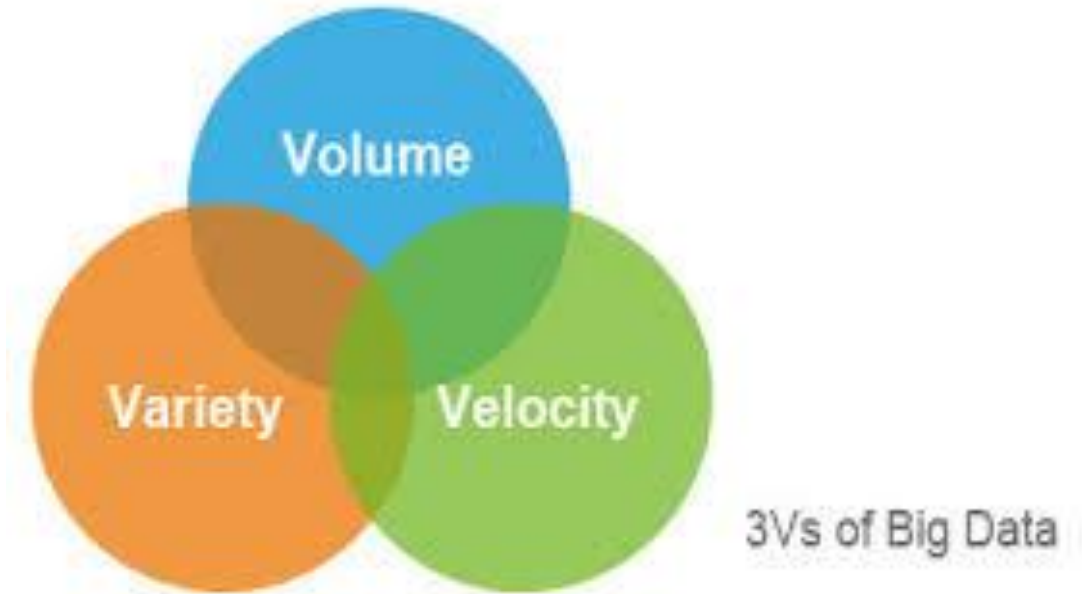
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WHAT IS IT?

Big Data Technologies are the special computer tools and systems that let us **collect**, **store**, and **understand** huge amounts of fast moving, diverse information.

THE THREE V'S - THE PROBLEM

- **Volume:** The enormous **scale** of data that is too massive for traditional databases to store and process.

- **Velocity:** The extreme **speed** at which data is generated, collected, and must be analyzed to provide real time value.

- **Variety:** The vast **diversity** of data types, including structured, semi structured, and complex unstructured formats like video and audio.

APPLICATIONS

- Personalized Recommendations
- Fraud Detection
- E-commerce Dynamic Pricing

RECOMMENDATIONS

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3Vs of Big Data

Processing Frameworks

1. **Apache Hadoop**
2. **Apache Spark**
3. **PySpark**

Challenges

1. **High Cost**
2. **Shortage of skilled professionals**
3. **Collecting huge data does not guarantee value**