

Orientation on Big Data Technologies

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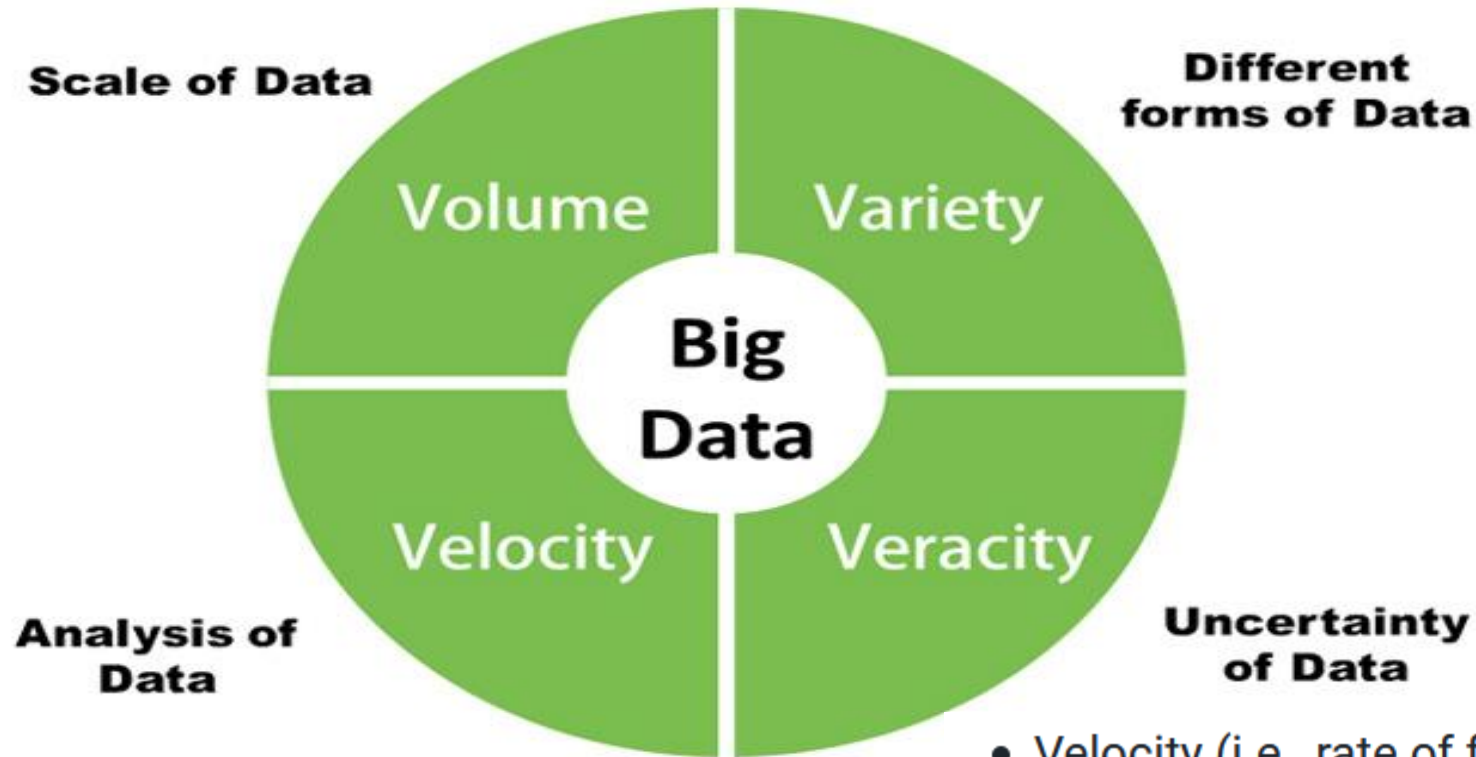
Course Objectives

- To introduce the current scenarios of big data.
- Provide various facets of big data.
- To be familiar with the technologies playing key role in it.
- Equips them with necessary knowledge to use them for solving big data problems in different domains.

What is Big Data ?



4V of Big data (Characteristics of Bigdata)



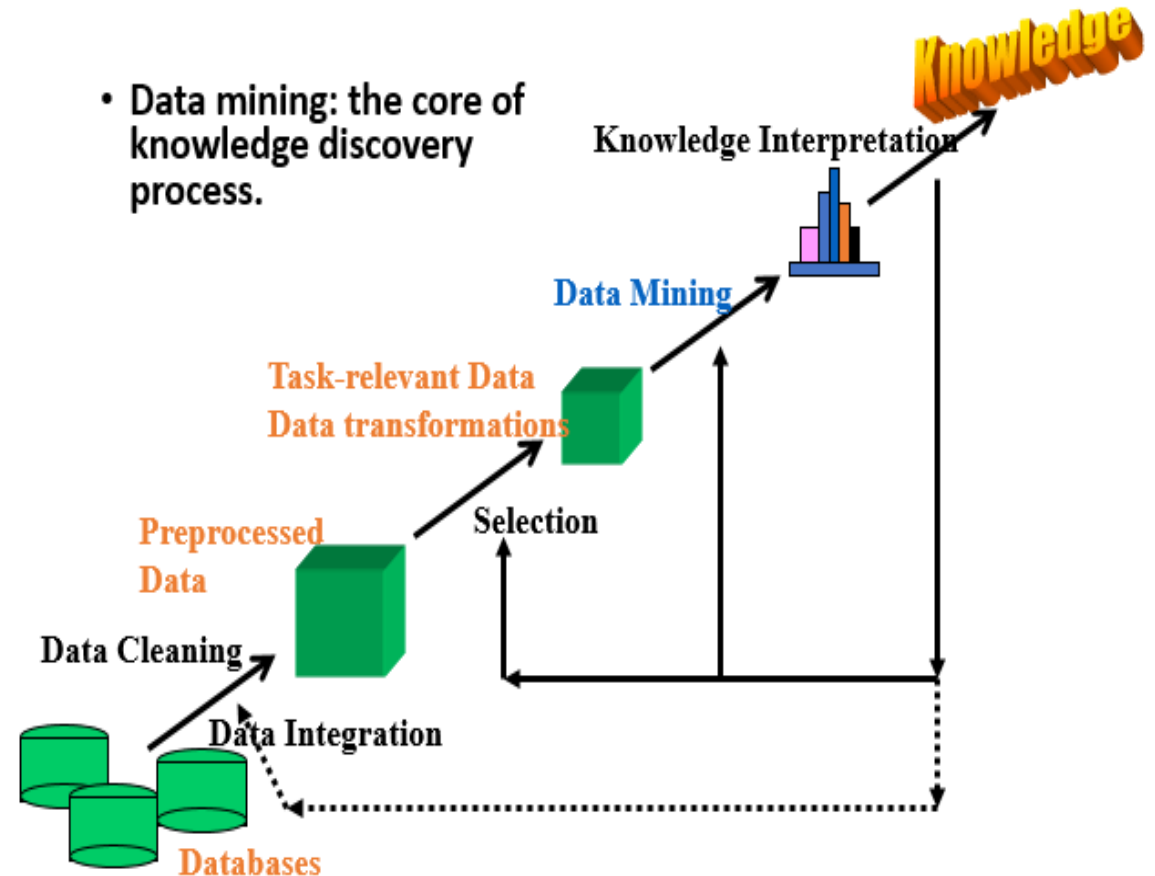
- Velocity (i.e., rate of flow)
- Volume (i.e., the size of the dataset)
- Variety (i.e., data from multiple repositories, domains or types)
- Veracity (i.e., provenance of the data and its management)

Applications Of Bigdata

Big Data Applications in

- Healthcare
- Manufacturing
- Media & Entertainment
- IoT
- Marketing
- Research
- Government
- Security
-Many more

Knowledge Discovery Process



Future of Big Data

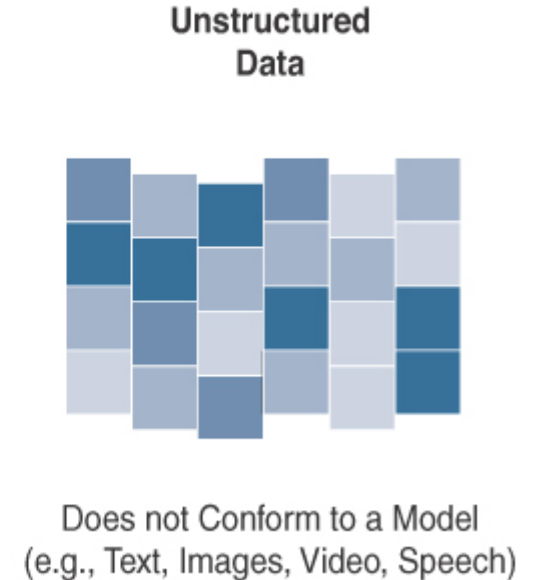
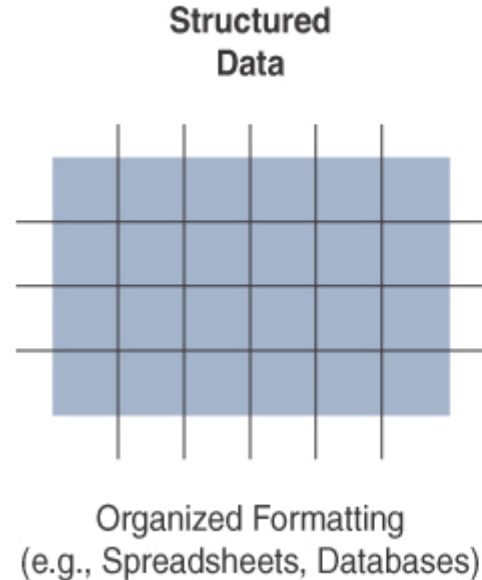
- Age of data (-Distributed Database: Big Data & Blockchain)
- Decision making Process
- IoT

-Digitize the world connecting

- *People
- *Process
- ***Data**
- *Things

- IoT-generated data is unstructured.

- in IoT, the data is like gold, as it is what enables businesses to deliver new IoT services that enhance the customer experience, reduce cost, and deliver new revenue opportunities.



IoTWF standardized Architecture

Levels

- 7 Collaboration & Processes**
(Involving People & Business Processes)
- 6 Application**
(Reporting, Analytics, Control)
- 5 Data Abstraction**
(Aggregation & Access)
- 4 Data Accumulation**
(Storage)
- 3 Edge Computing**
(Data Element Analysis & Transformation)
- 2 Connectivity**
(Communication & Processing Units)
- 1 Physical Devices & Controllers**
(The "Things" in IoT)

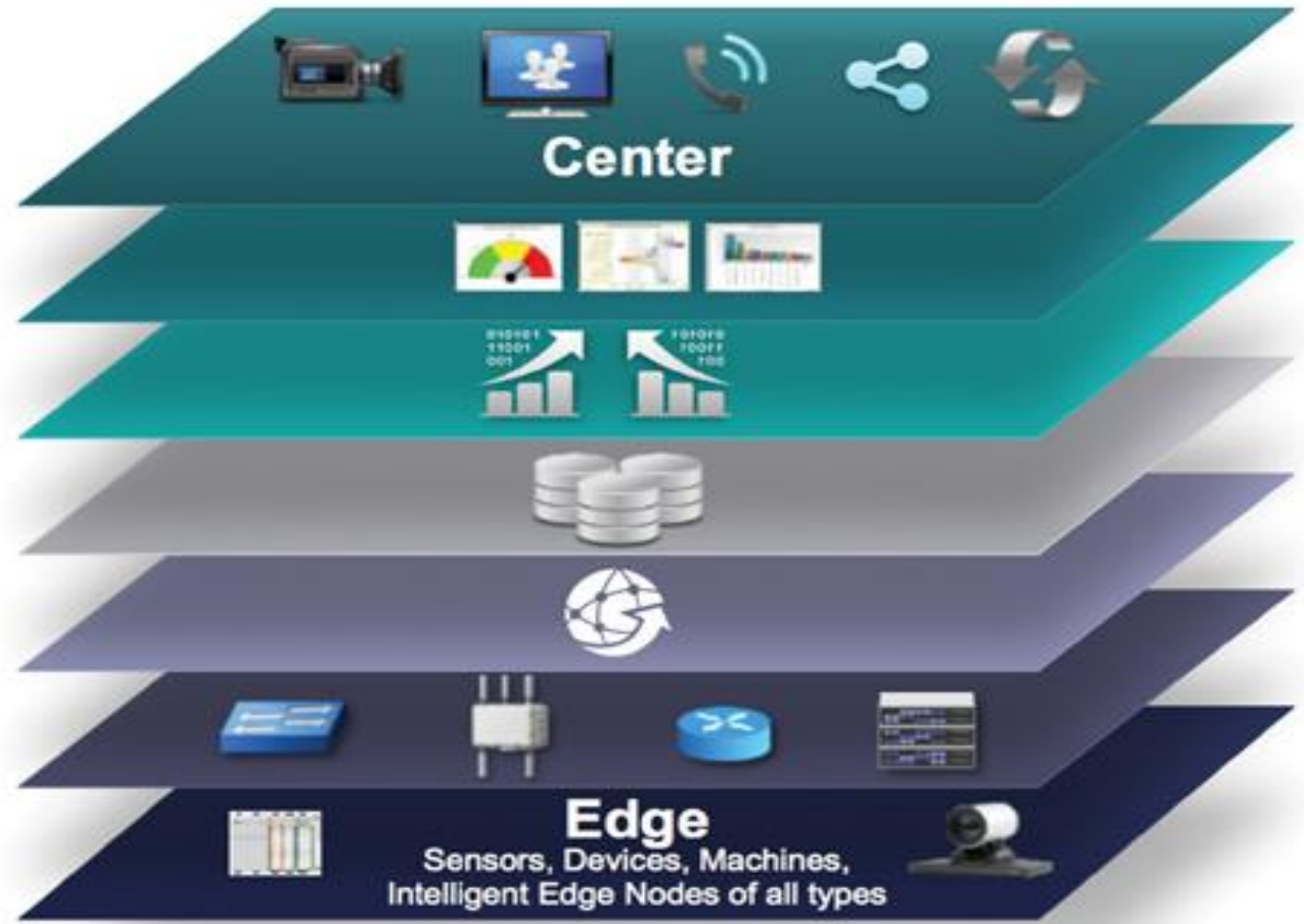


Figure *IoT Reference Model Published by the IoT World Forum*

IoT simplified Architecture

Core IoT Functional Stack

Applications

Communications
Network

Things: Sensors and
Actuators

Security

IoT Data Management and Compute Stack

Cloud

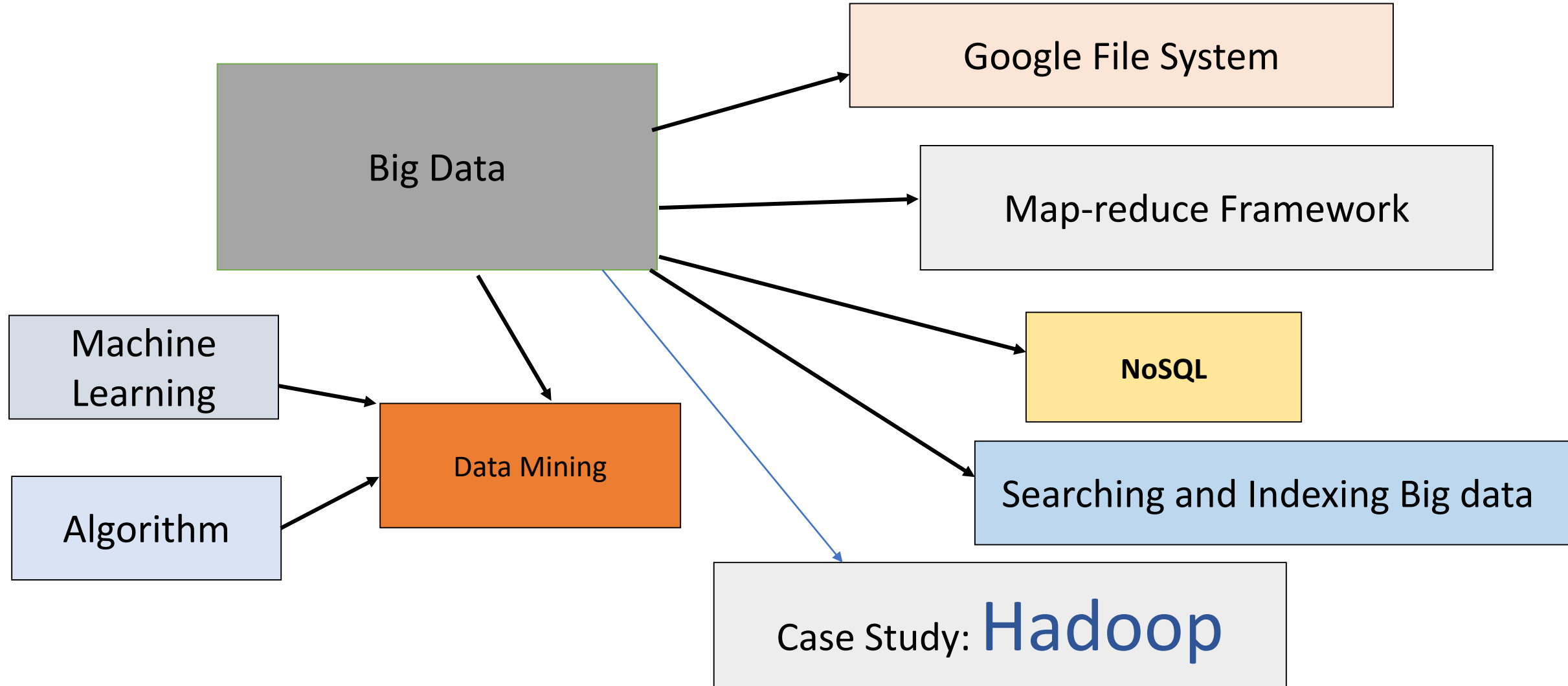
Fog

Edge

JavaScript Object Notation (JSON) and Extended Markup Language (XML) which are common data exchange formats used **on web** and in some **IoT data** exchanges.

Figure *Simplified IoT Architecture*

Big Data Technologies (Theory+ Labs)



Big Data Career Starts from Here...

- Who want to be a data Scientist?

Thank YOU