1. Structured Data

Definition: Structured data is highly organized and formatted so that it fits neatly into rows and columns in databases, making it easy to enter, query, and analyze using traditional tools like SQL.

Characteristics:

- Organized in tables (rows and columns).
- Easily searchable.
- Stored in relational databases.
- Follows a predefined schema (rules about data type, length, etc.).

Examples:

ID	Name	Age	Salary
1	Alice	28	50,000
2	Bob	35	70,000

- Bank transactions (transaction ID, amount, date)
- Employee records (ID, name, department, salary)
- Inventory data (product ID, quantity, price)

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2. Unstructured Data

Definition: Unstructured data does not have a predefined format or organization. It's usually more complex and difficult to store, process, and analyze with traditional tools.

Characteristics:

- Does not fit neatly into tables.
- Harder to search and analyze.
- Often stored in files, NoSQL databases, or big data platforms.
- Can be text-heavy, multimedia, or sensor-generated.

Examples:

- Emails and text messages
- Social media posts, tweets, comments
- Videos, images, audio recordings
- PDF documents, web pages

Summary Table:

Feature	Structured Data	Unstructured Data
Format	Tabular, rows & columns	No predefined format
Storage	Relational databases	NoSQL, file systems, cloud storage
Ease of Analysis	Easy with SQL and BI tools	Requires advanced tools/AI
Examples	Bank records, employee database	Videos, emails, social media posts

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