Unsupervised Learning

Unsupervised Learning

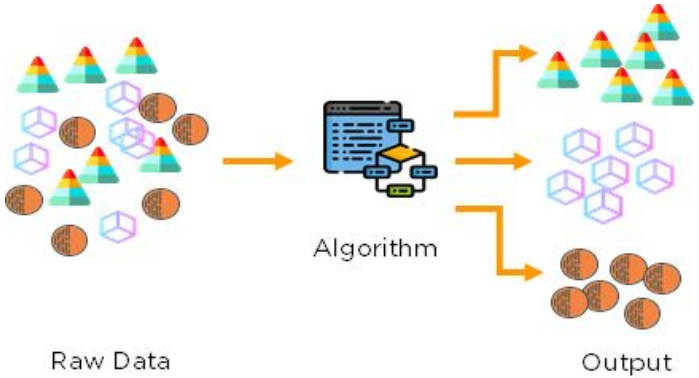
- In **unsupervised learning**, only the input data is known, and no known output data is given to the algorithm.

- Although these methods find success in numerous applications, they are usually harder to understand and evaluate.

Examples of Unsupervised Learning

- Identifying topics in a set of blog posts

- Segmenting customers into groups with similar preferences.



Examples of Unsupervised Learning

- Identifying topics in a set of blog posts
- Segmenting customers into groups with similar preferences
- Detecting abnormal access patterns to a website

Data Representation in Machine Learning

- It is important to have a representation of our input data that a computer can understand.

- Often it is helpful to think of our data as a **table**.

- Each data point (each email, each customer, each transaction) is a row, and each property that describes that data point (say, the age of a customer or the amount or location of a transaction) is a column.

Data Representation in Machine Learning

- Each entity or row here is known as a **sample** (or data point) in machine learning, while the columns (the properties that describe these entities) are called **features**.