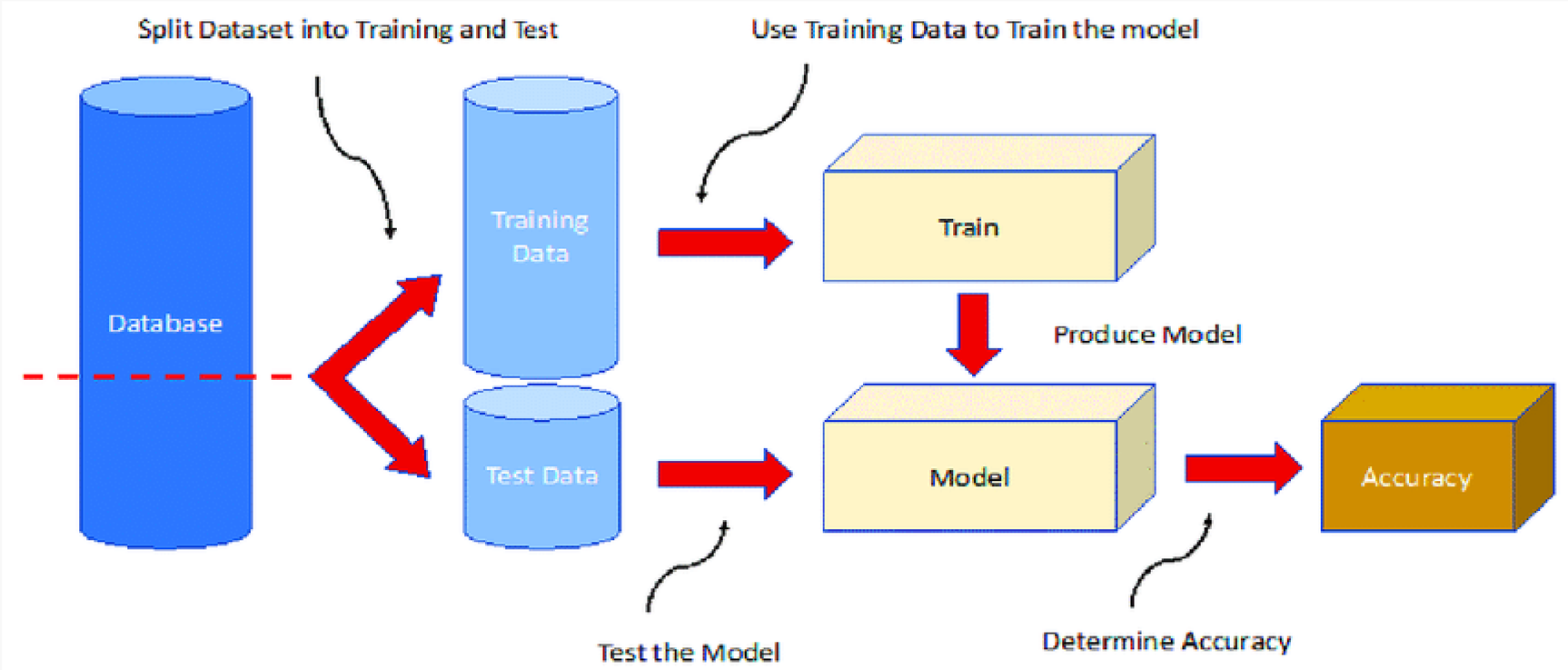
SUPERVISED & UNSUPERVISED LEARNING

Agenda

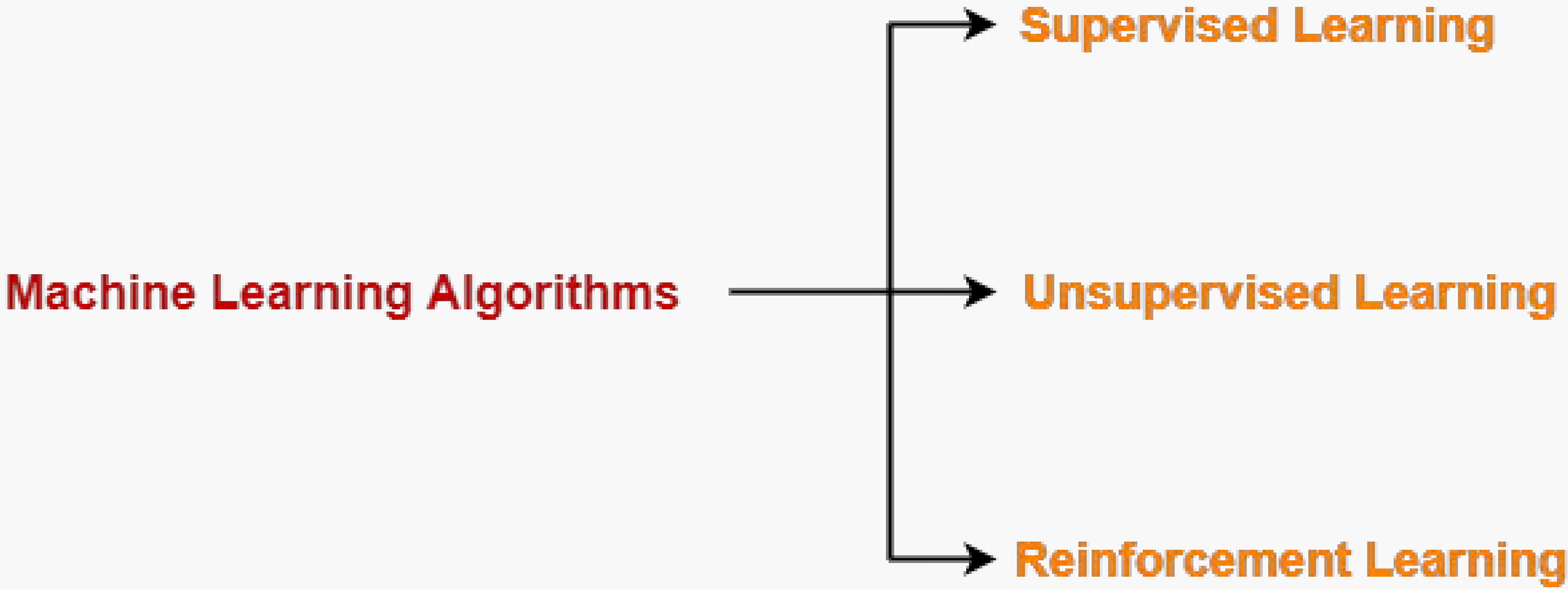
1. What is Machine Learning
2. Supervised Learning
3. Unsupervised Learning

What is Machine Learning?

- Machine learning represents computer algorithms which can observe and analyze data on their own.
- It focuses on development of algorithms and models that enable computers to learn from and make predictions or decisions based on data.



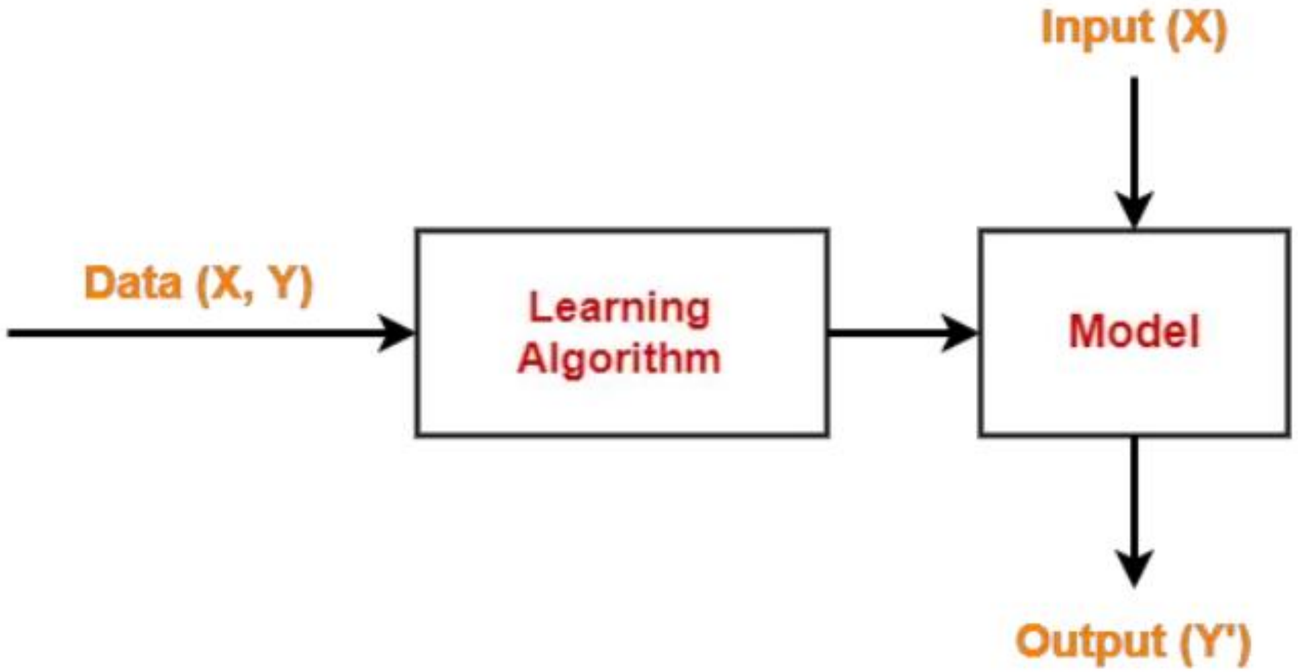
MACHINE LEARNING ALGORITHMS



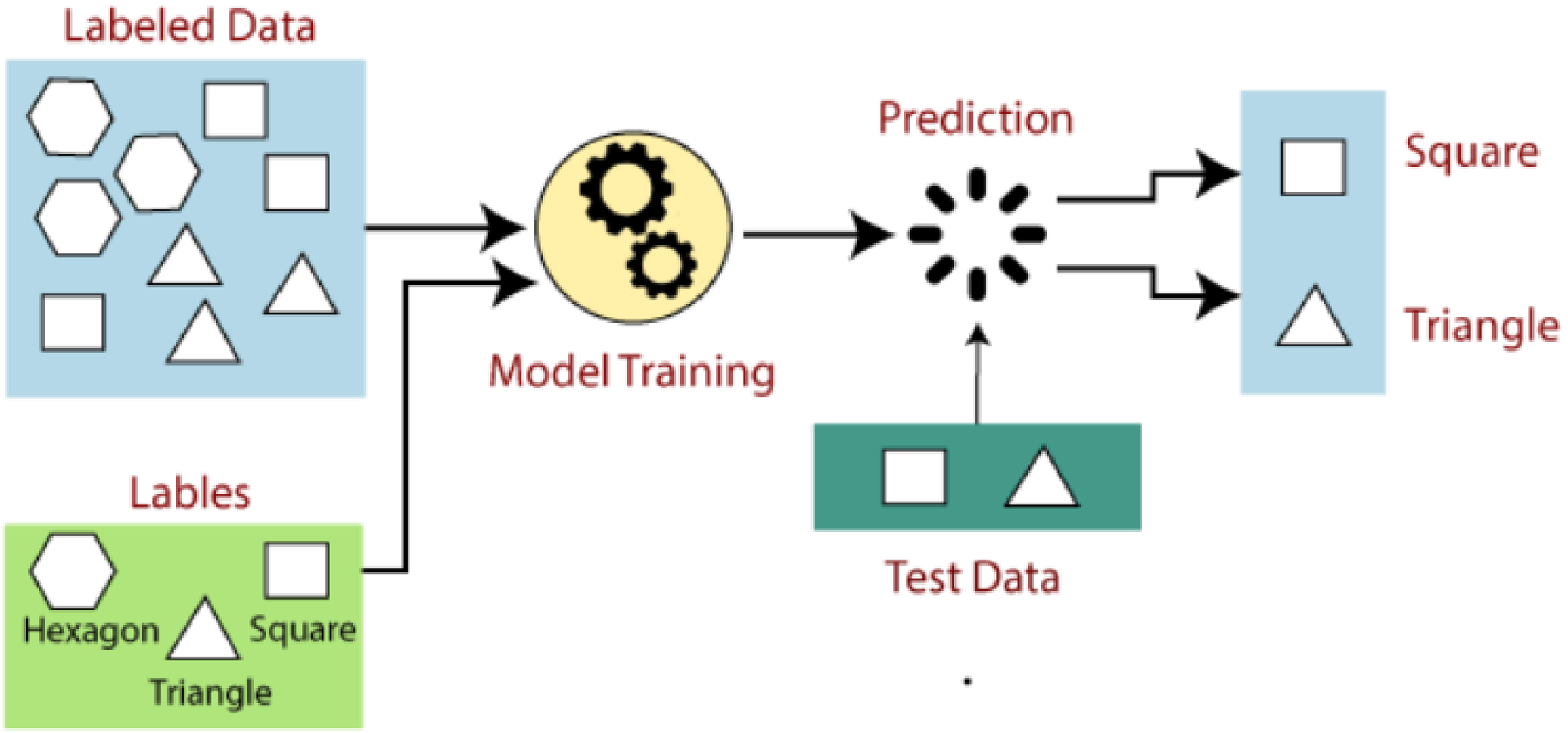
Supervised Learning

In this type of machine learning algorithm :

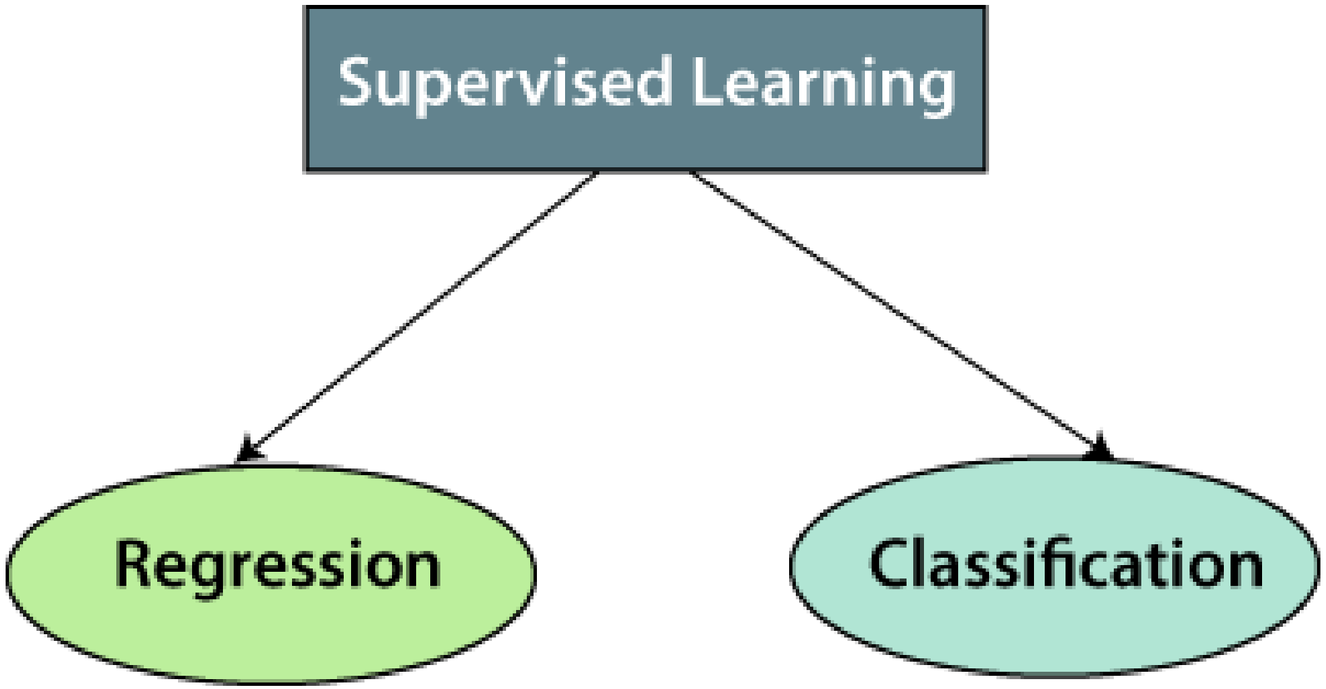
- The training data set is a labeled data set.
- The training data set contains the input value (X) and target value (Y).
- The learning algorithm generates a model.
- Then, new data set consisting of only the input value is fed.
- The model then generates the target value based on its learning.



Working of Supervised Learning



Types of Supervised Learning Algorithms



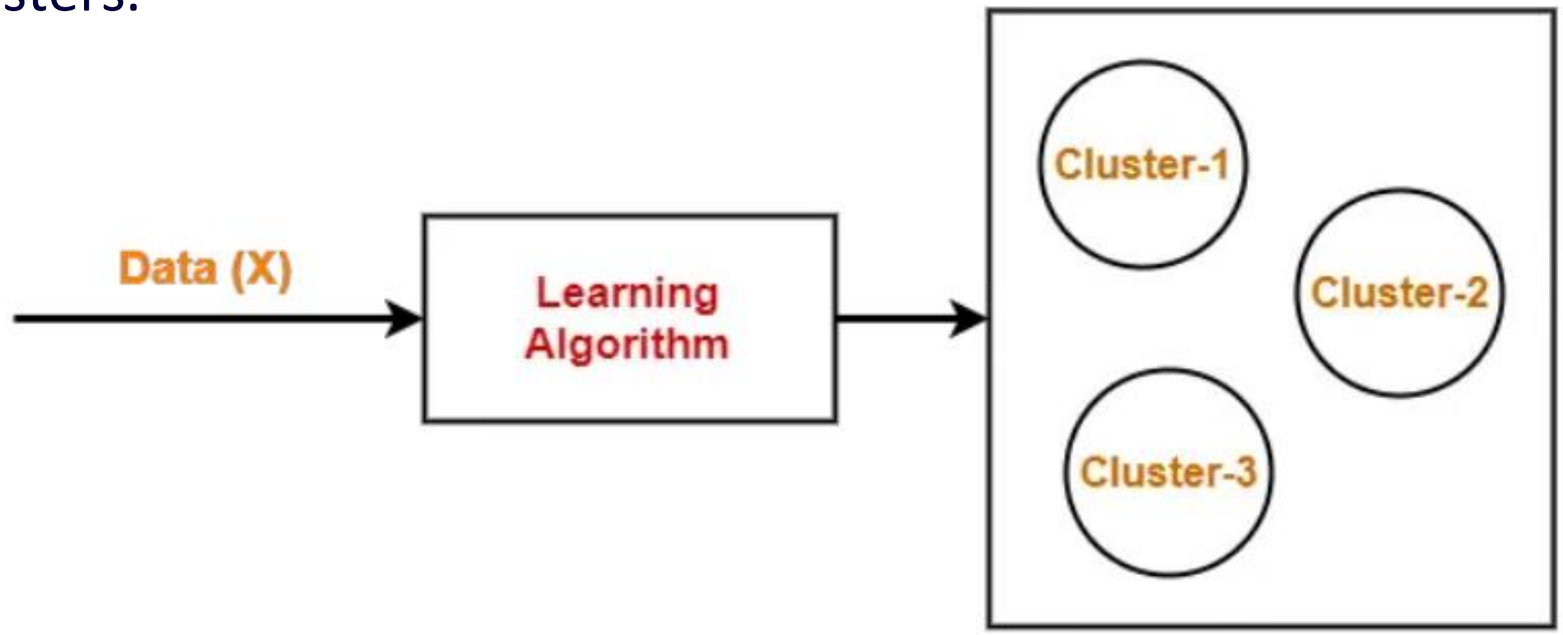
- Linear Regression
- Regression Trees
- Non-Linear Regression
- Bayesian Linear Regression
- Polynomial Regression

- Random Forest
- Decision Trees
- Logistic Regression
- Support vector Machines

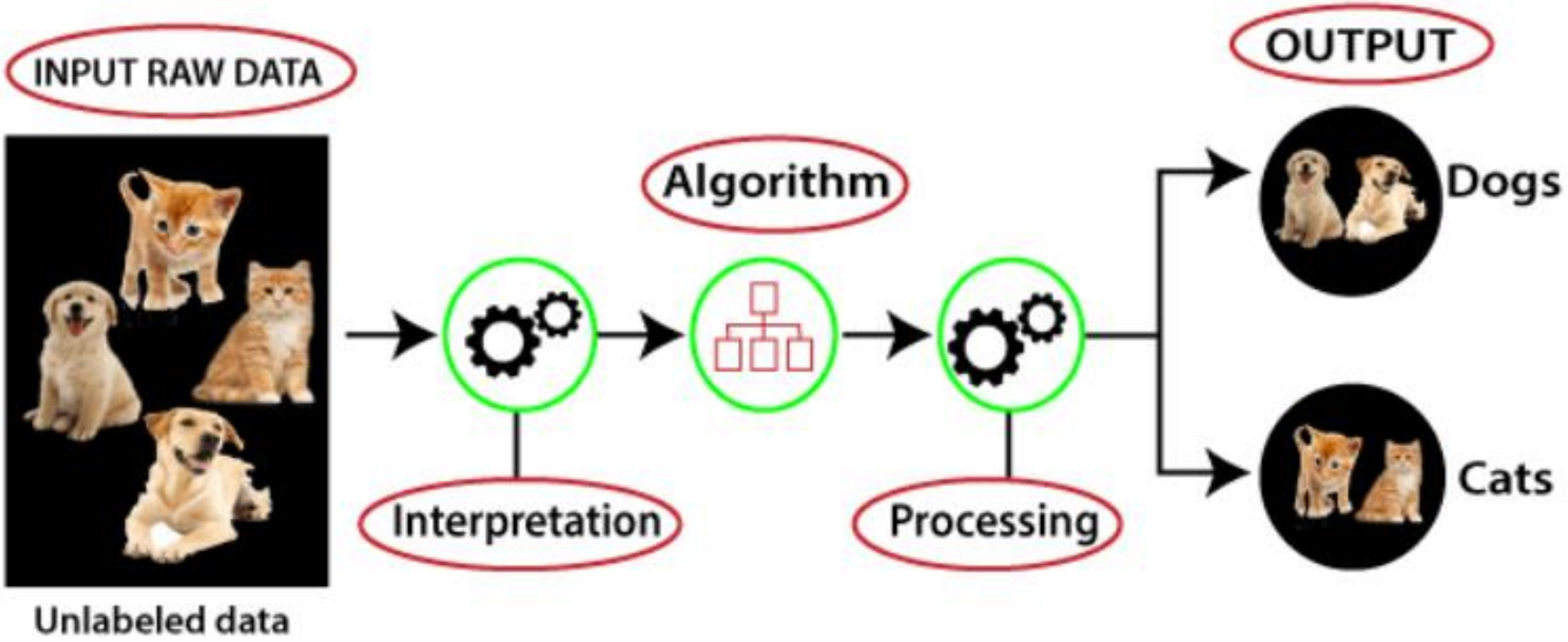
Unsupervised Learning

In this type of machine learning algorithm,

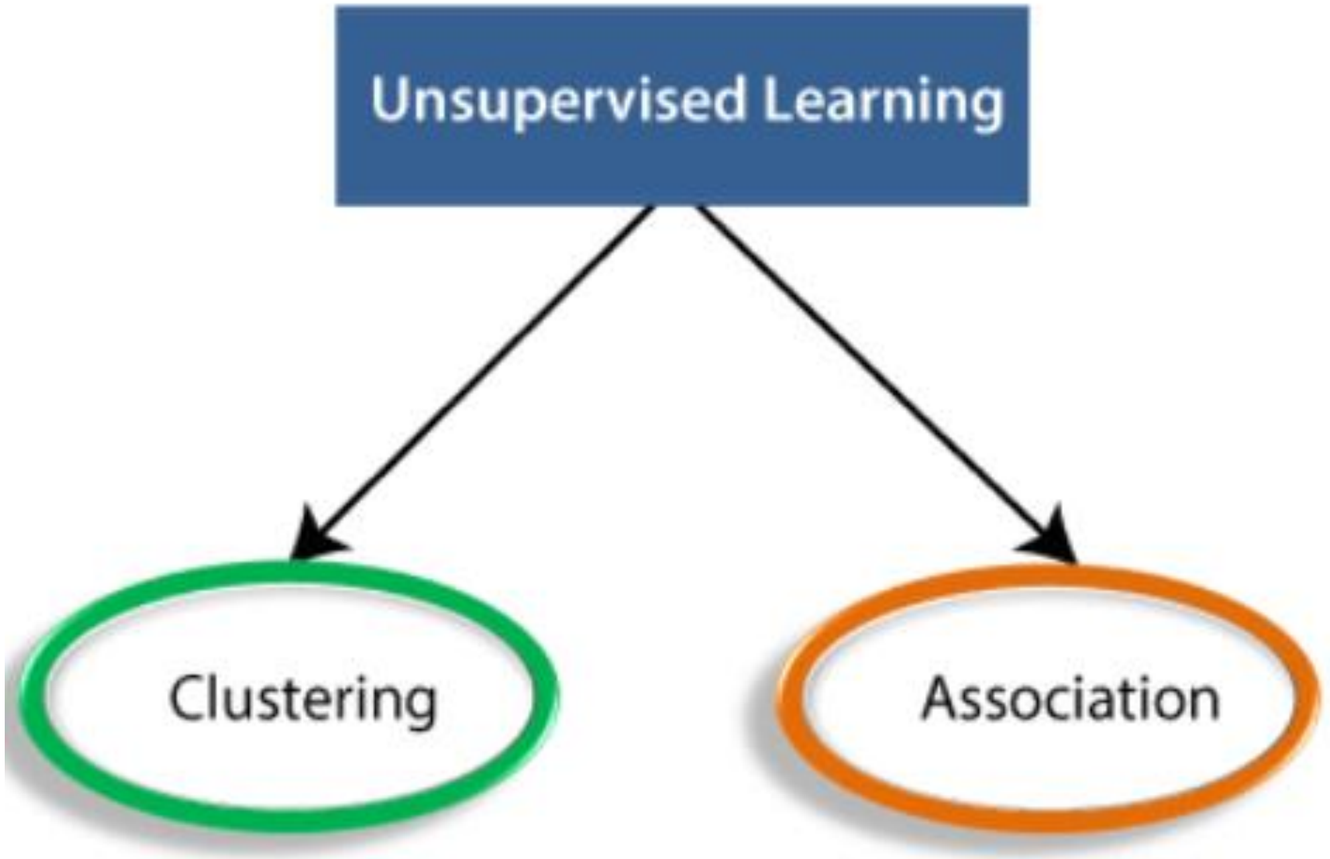
- The training data set is an unlabeled data set.
- In other words, the training data set contains only the input value (X) and not the target value (Y).
- Based on the similarity between data, it tries to draw inference from the data such as finding patterns or clusters.



Working of Unsupervised Learning



Types of Unsupervised Learning Algorithms



- Partition Clustering
- Hierarchical Clustering

Thank you