

Machine Learning

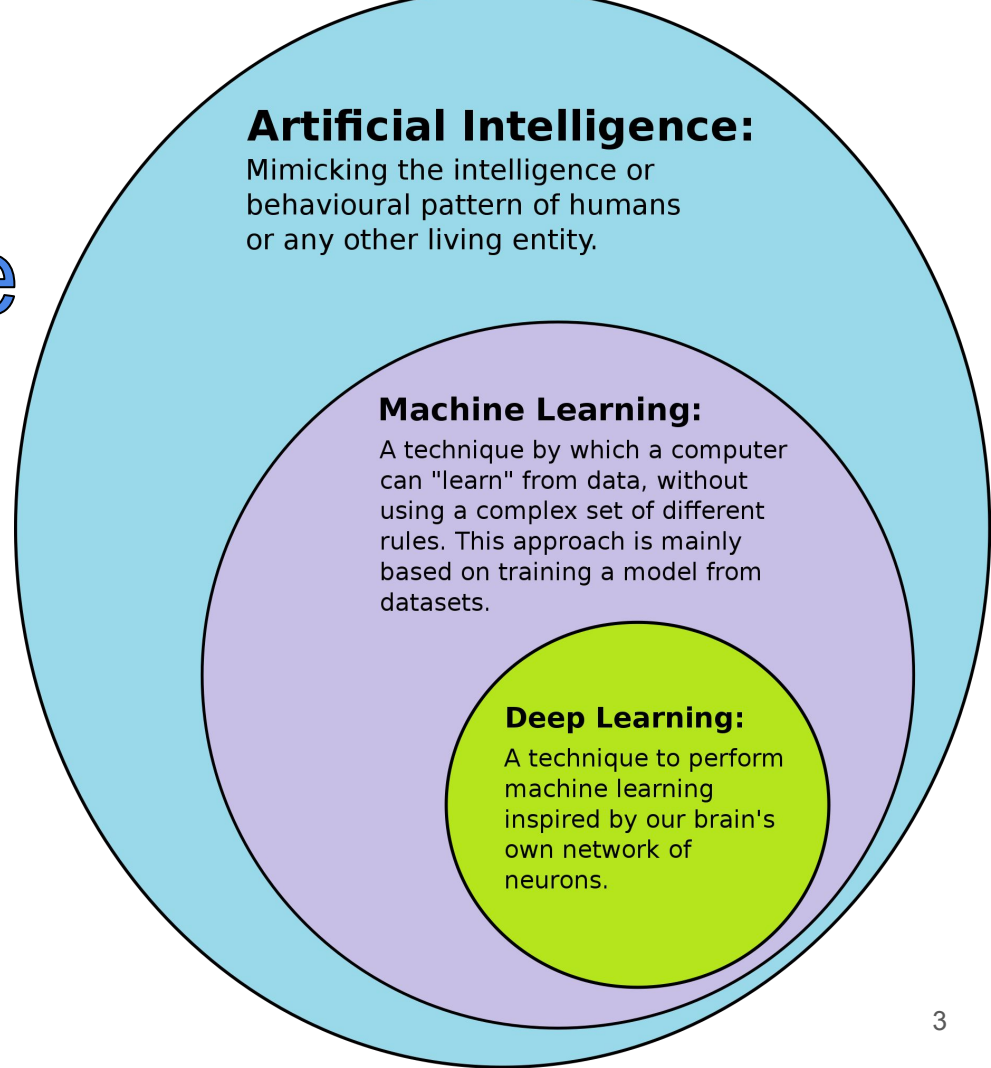
WELCOME!

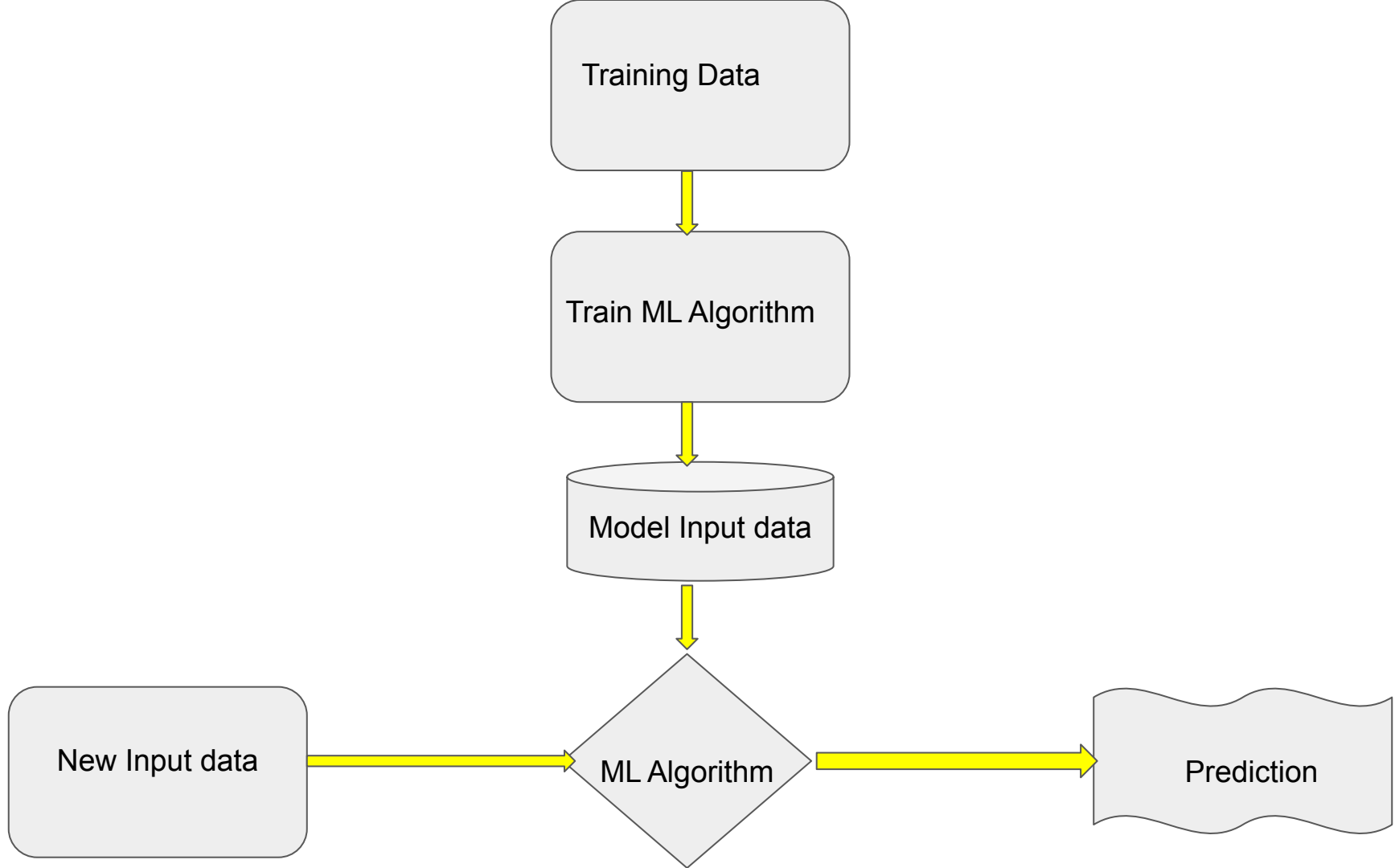
What is Machine Learning?

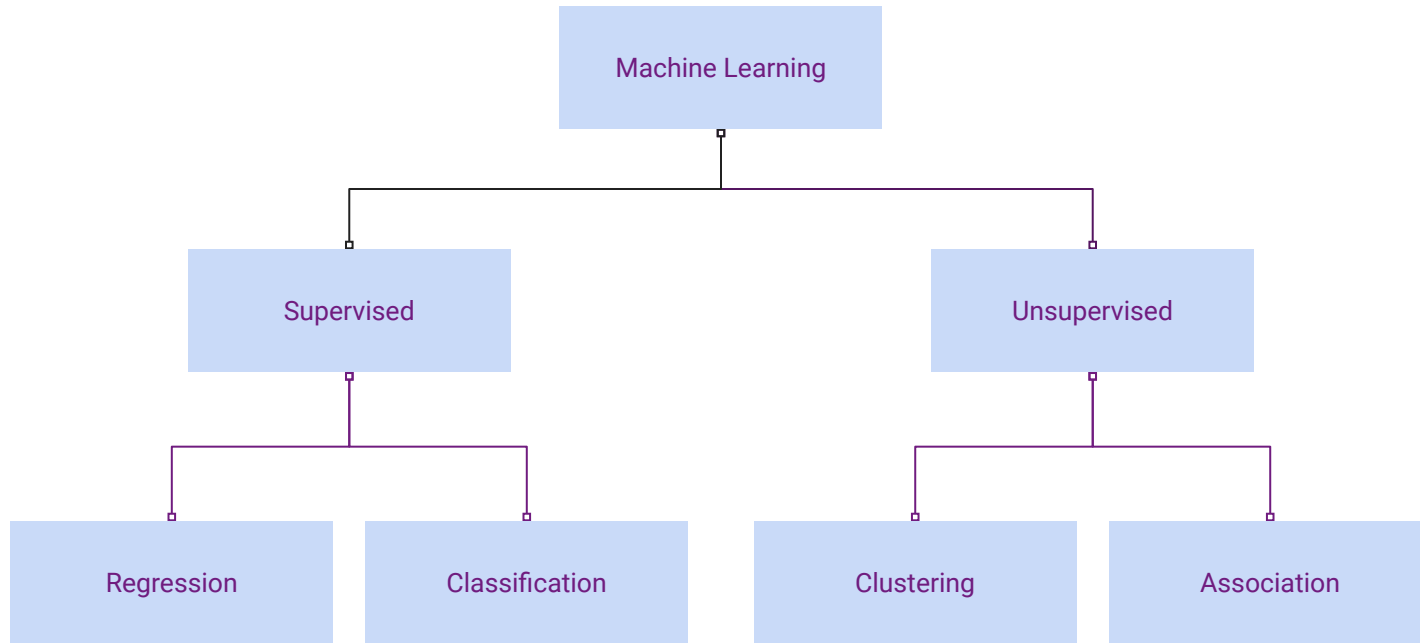
"Field of study that gives computers the ability to learn without being explicitly programmed"

- Arthur Samuel (1959)

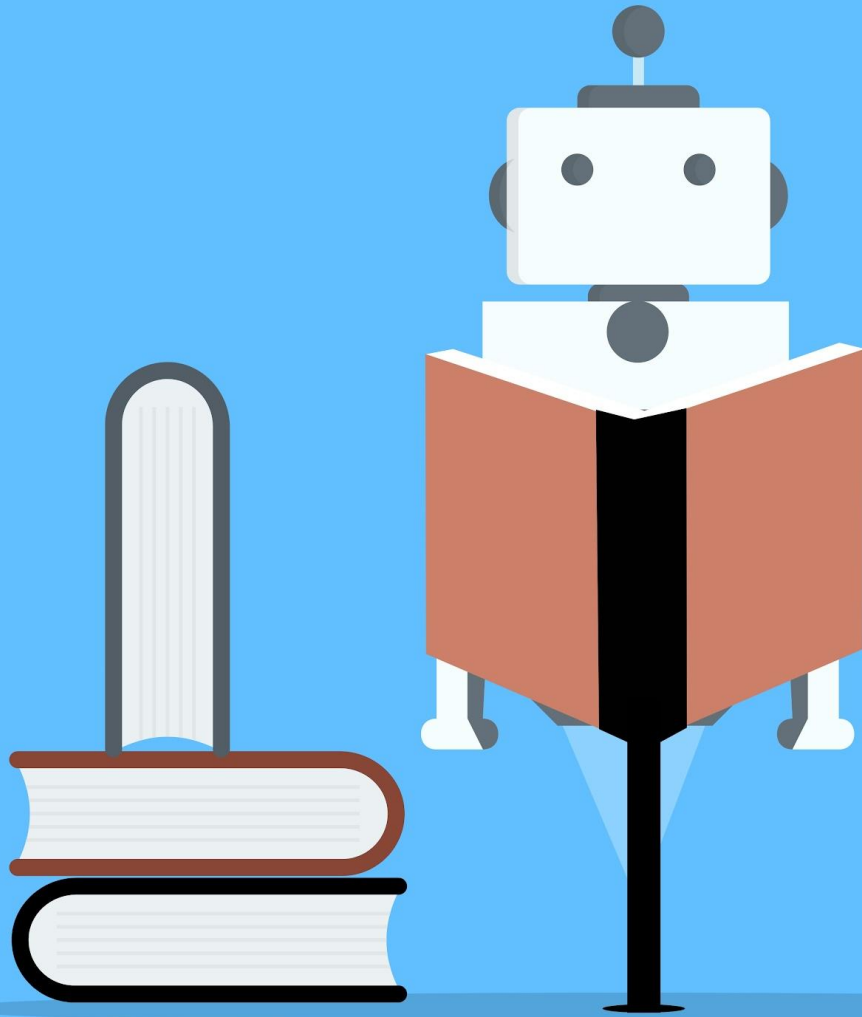
Artificial Intelligence vs Machine Learning vs Deep Learning





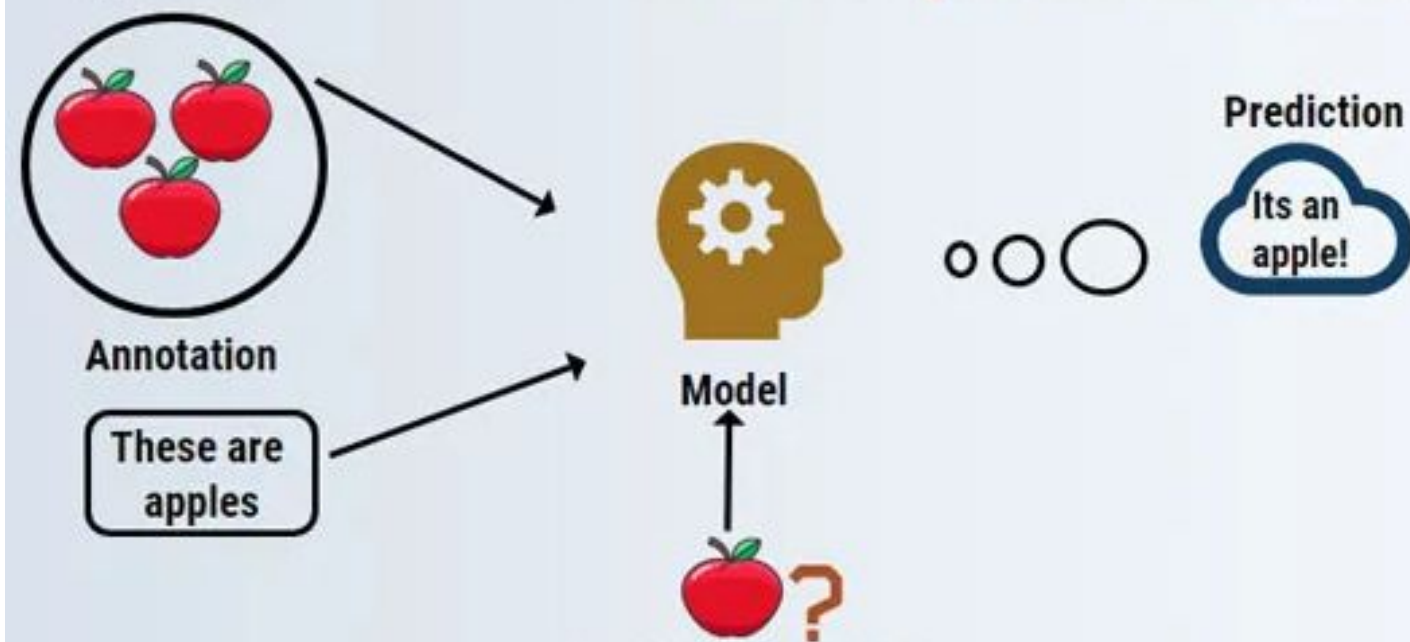


Supervised Learning



“Model able to predict with the help of labelled data”

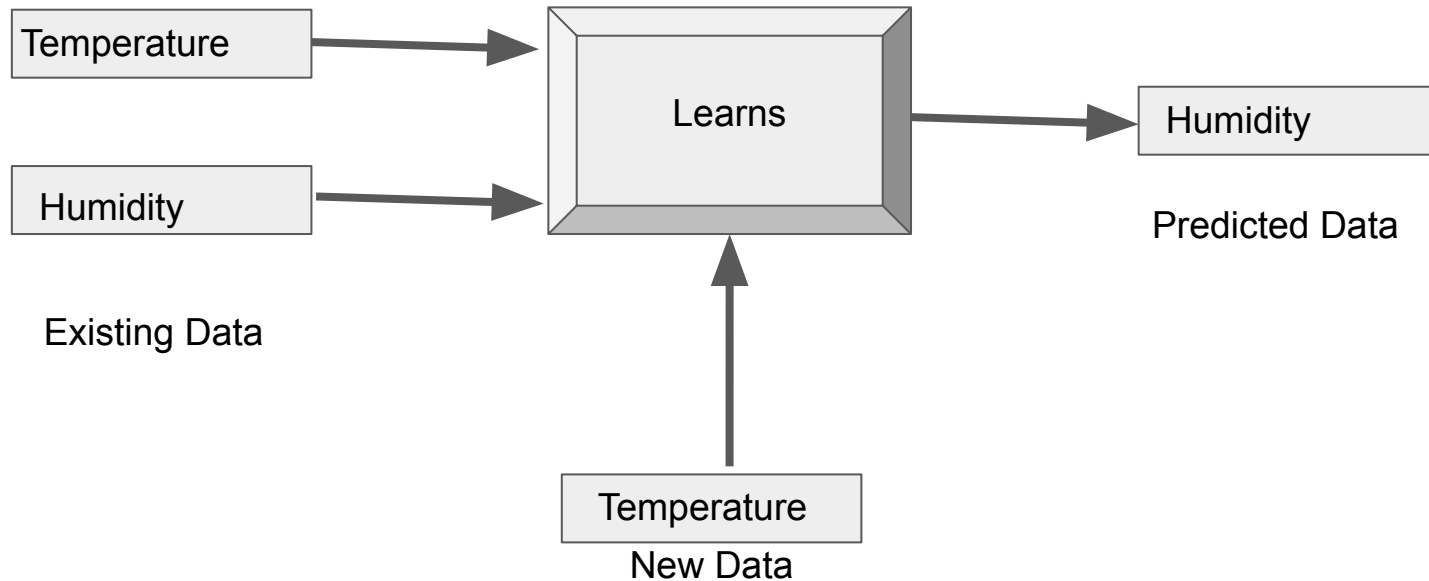
What is Supervised Learning?



source: edureka

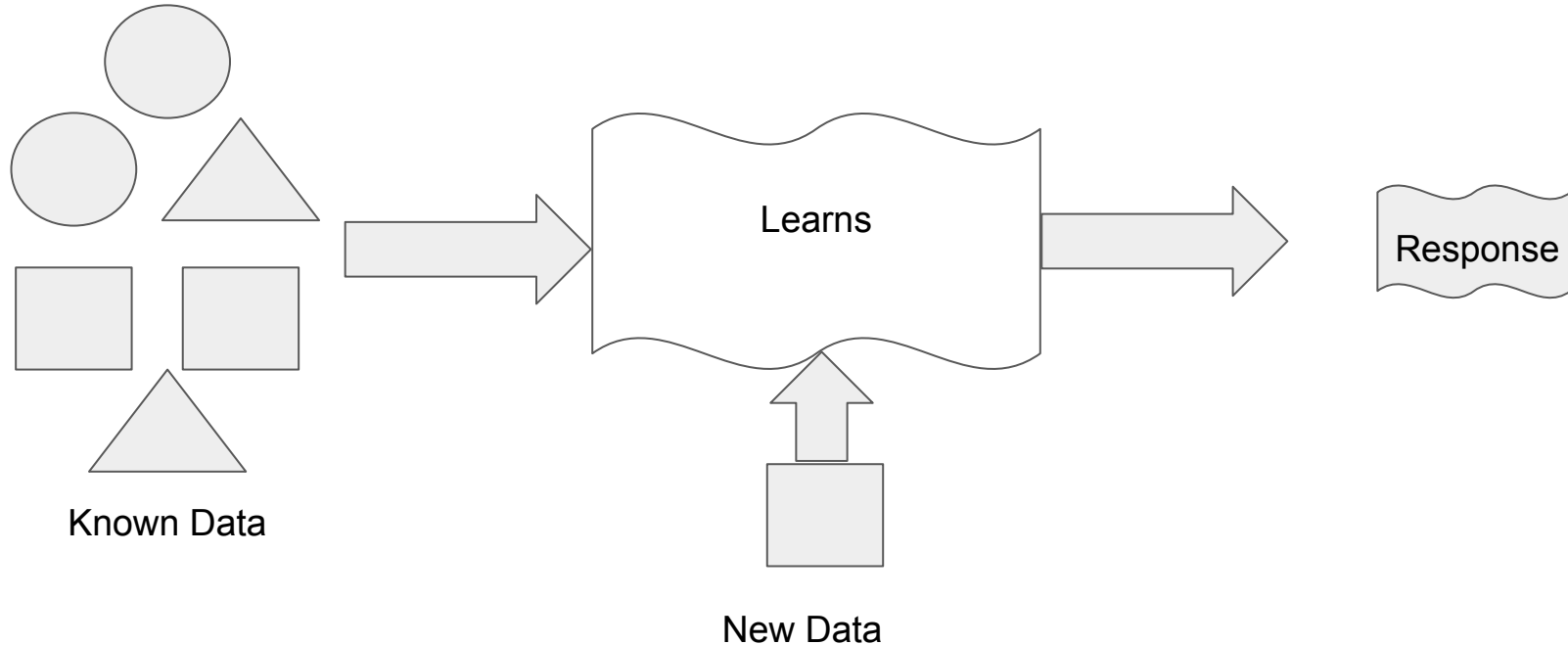
1. Regression

Relationship between two or more variables where a change in one variable leads to change in other



2. Classification

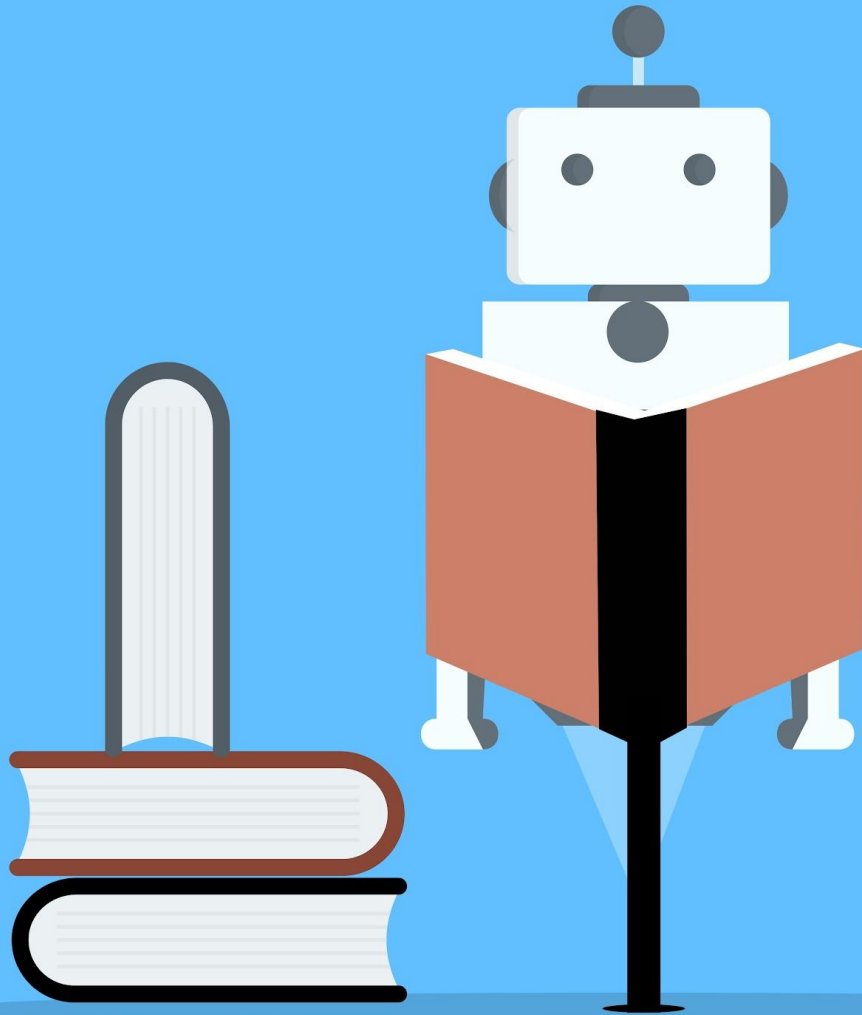
Output data is categorical i.e. with 2 or more classes (yes/no, win/lose/draw etc.)



Applications of Supervised Learning

1. Risk Assessment
2. Fraud Detection
3. Image Classification
4. Visual Recognition

Unsupervised Learning

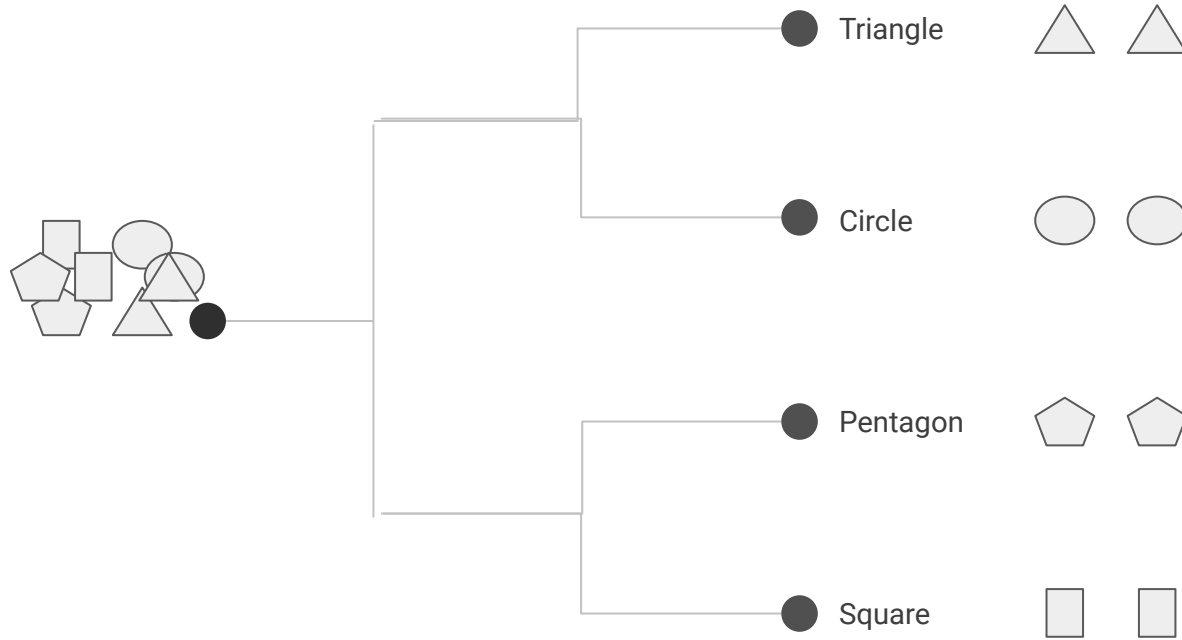


“Algorithm is trained using data that is unlabeled”





Unsupervised Learning

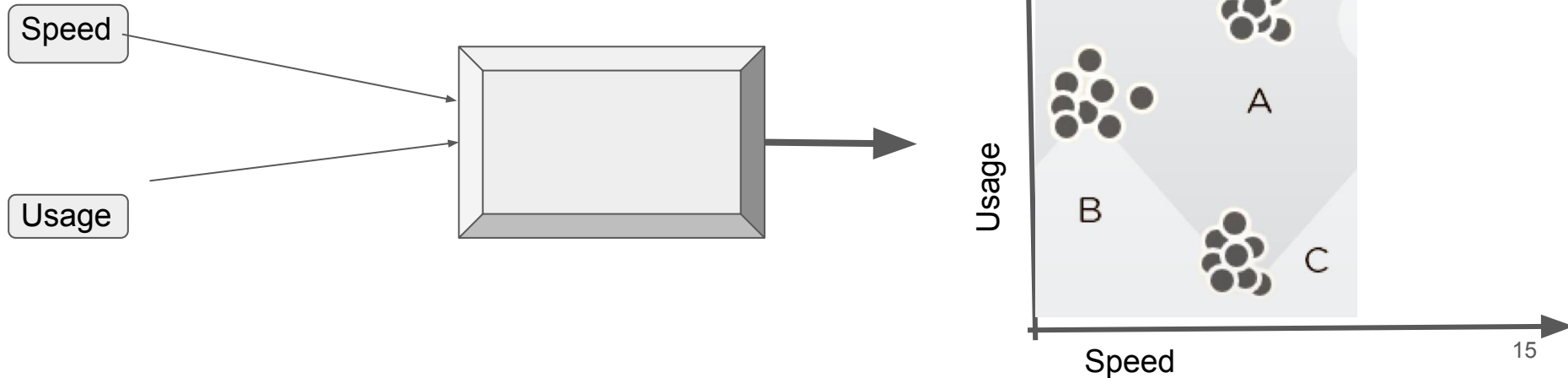


Group similar data together

1. Clustering

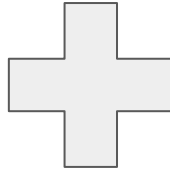
Method of dividing the objects into clusters which are similar between them and are dissimilar to the objects belonging to another cluster

Suppose a Internet service provider wants to reduce its churn rate by providing personalized internet speed , usage etc.

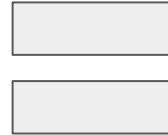


2. Association

Customer 1
Bread
Milk
Butter
Wheat



Customer 2
Bread
Milk
Rice
Egg



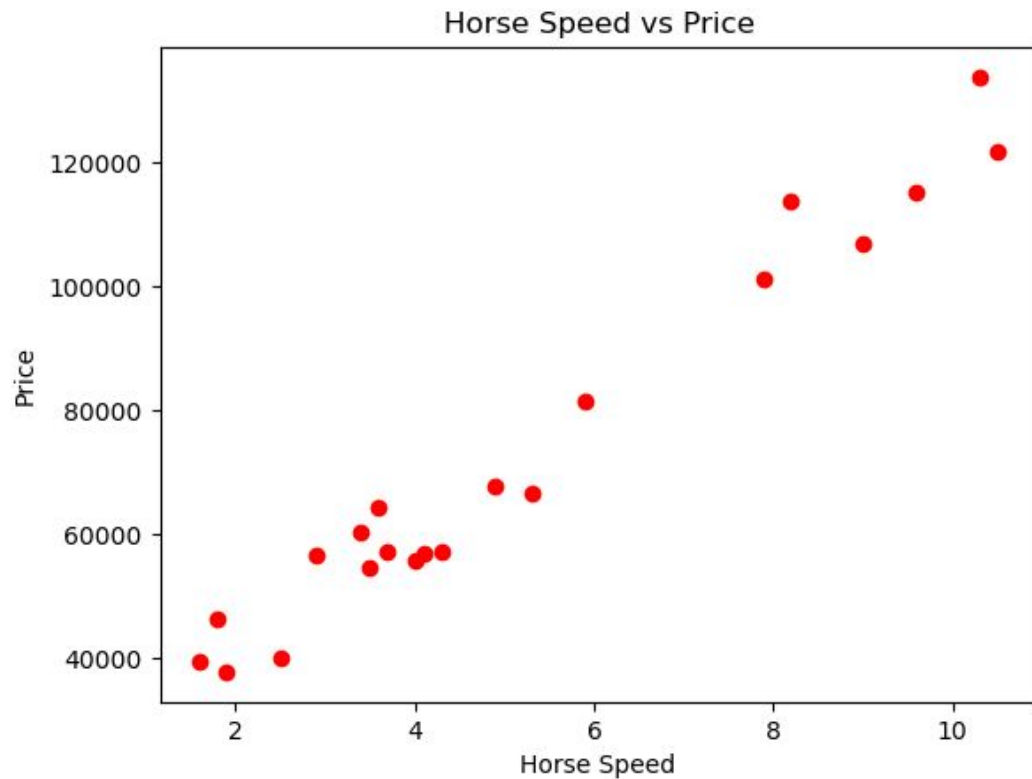
Customer 3

If a customer purchases milk, he is likely to purchase bread too?

Applications of Unsupervised Learning

1. Market Basket Analysis
2. Semantic Clustering
3. Delivery Store Optimization

Regression



Classification

