

BYTE ACADEMY

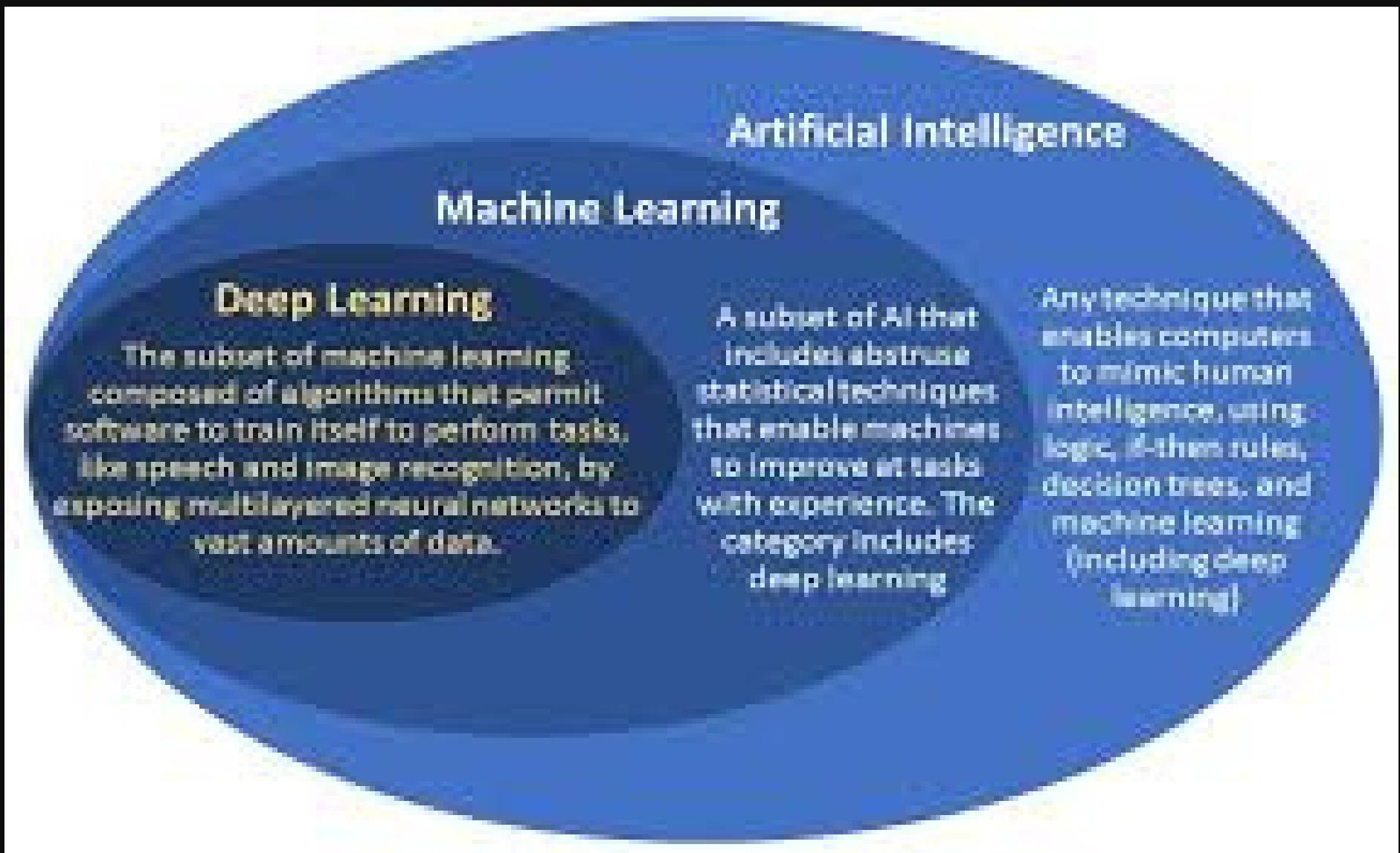


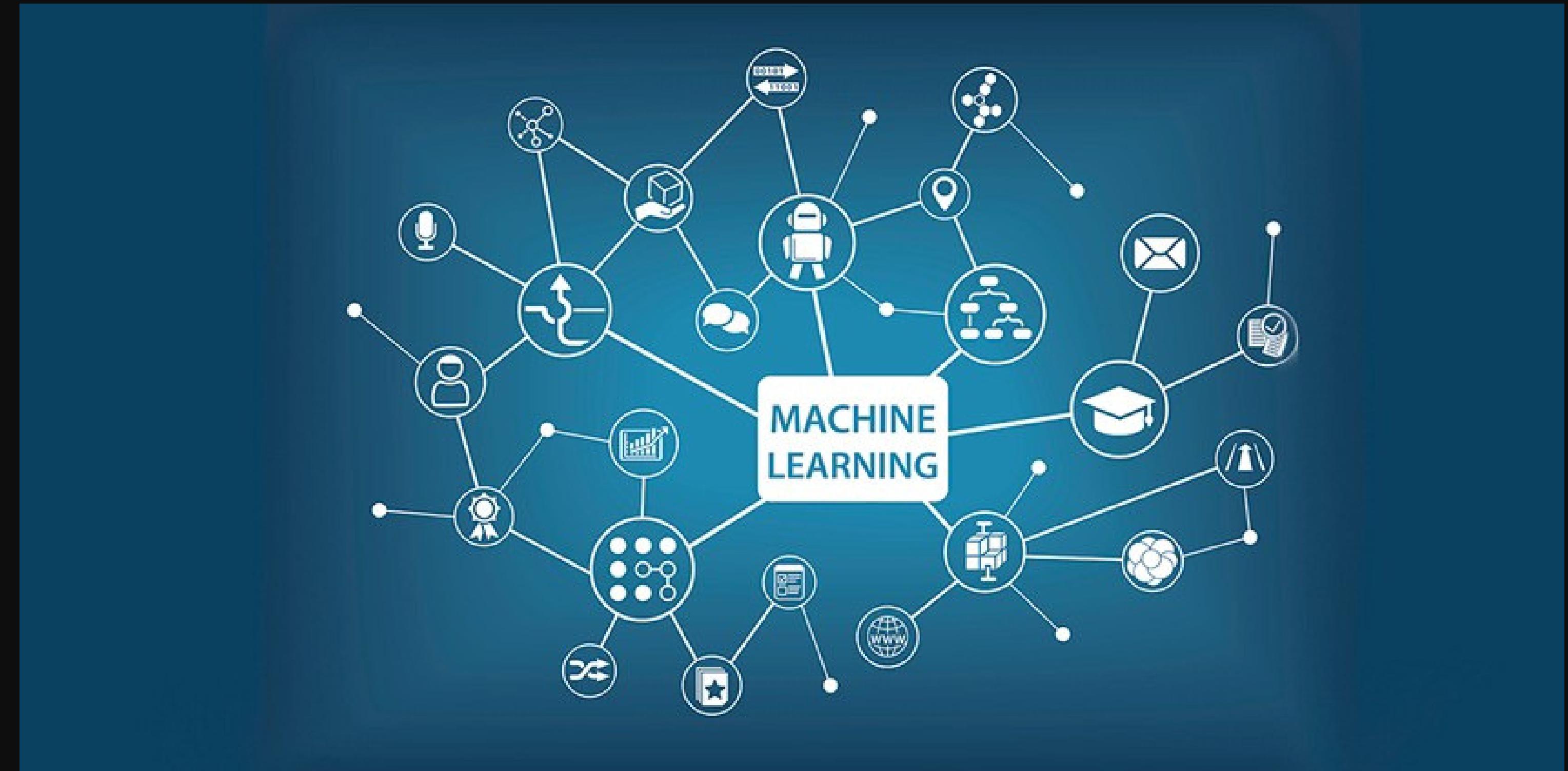
**HOW TO INCREASE YOUR DATA ANALYSIS SPEED UPTO 10 TIMES USING FREE
ONLINE RESOURCES**

BY PRADIP TIVHALE



AI, ML & DL





Machine Learning Applications





DATA SCIENCE SUMMIT &
DATA CONFERENCE 2015

Disruptive companies
differentiated by
INTELLIGENT
APPLICATIONS
using
Machine Learning

amazon
Retail

NETFLIX
Movie Distribution

PANDORA
Music

Google
Adsense
Advertising

glassdoor
Human Resources

eHarmony*
Dating

UBER
Taxis

Google
PageRank
Search

livingsocial
Coupons

LinkedIn
Networking

Obama'08
Campaigning

Zillow*
Real Estate

Avvo*
Legal Advice

fitbit
Wearables

RelateIQ
CRM

A small purple dog silhouette is located in the bottom right corner.

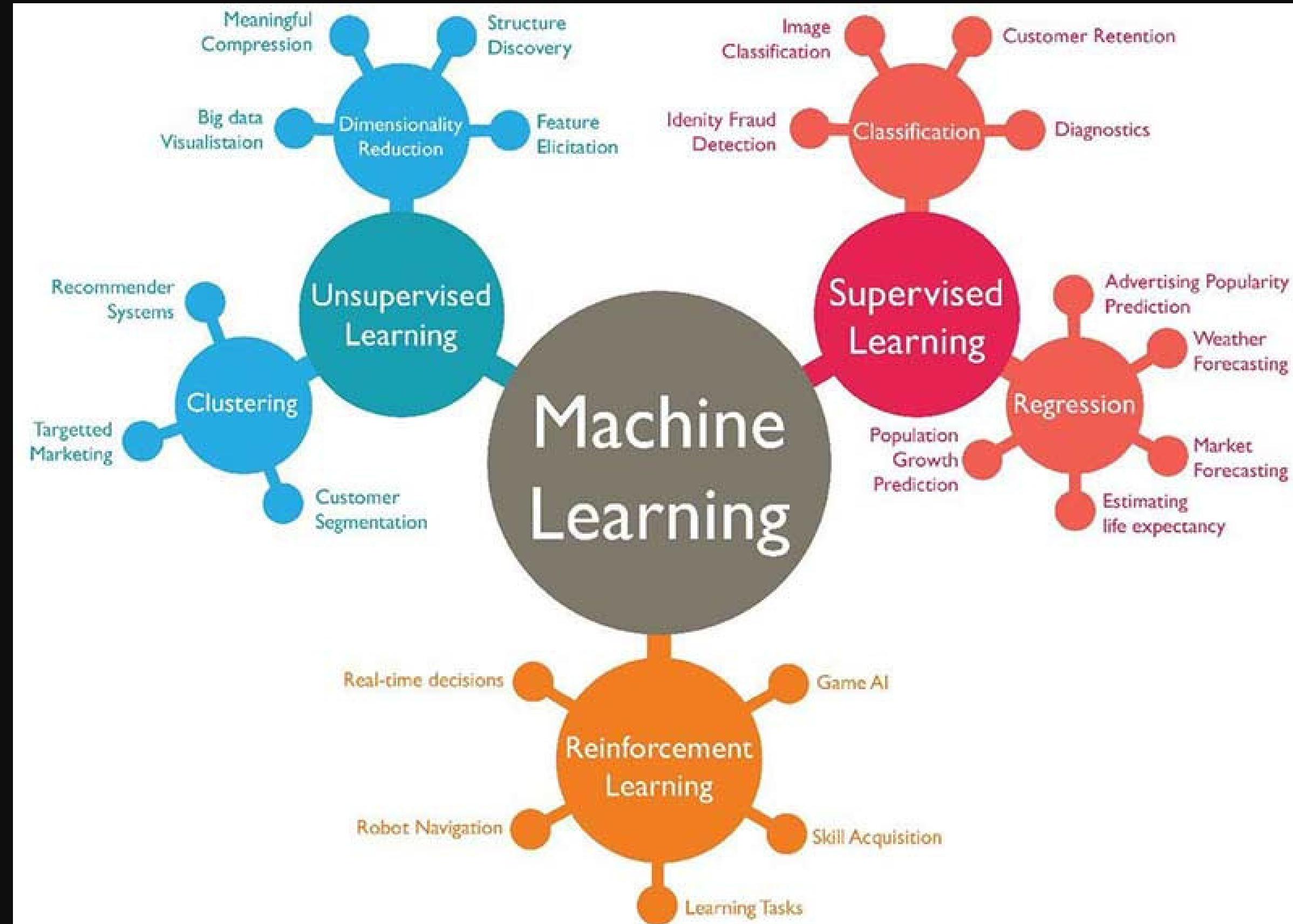
MACHINE LEARNING DEFINITION



“A computer program is said to learn from experience (E) with some class of tasks (T) and a performance measure (P) if its performance at tasks in T as measured by P improves with E ”



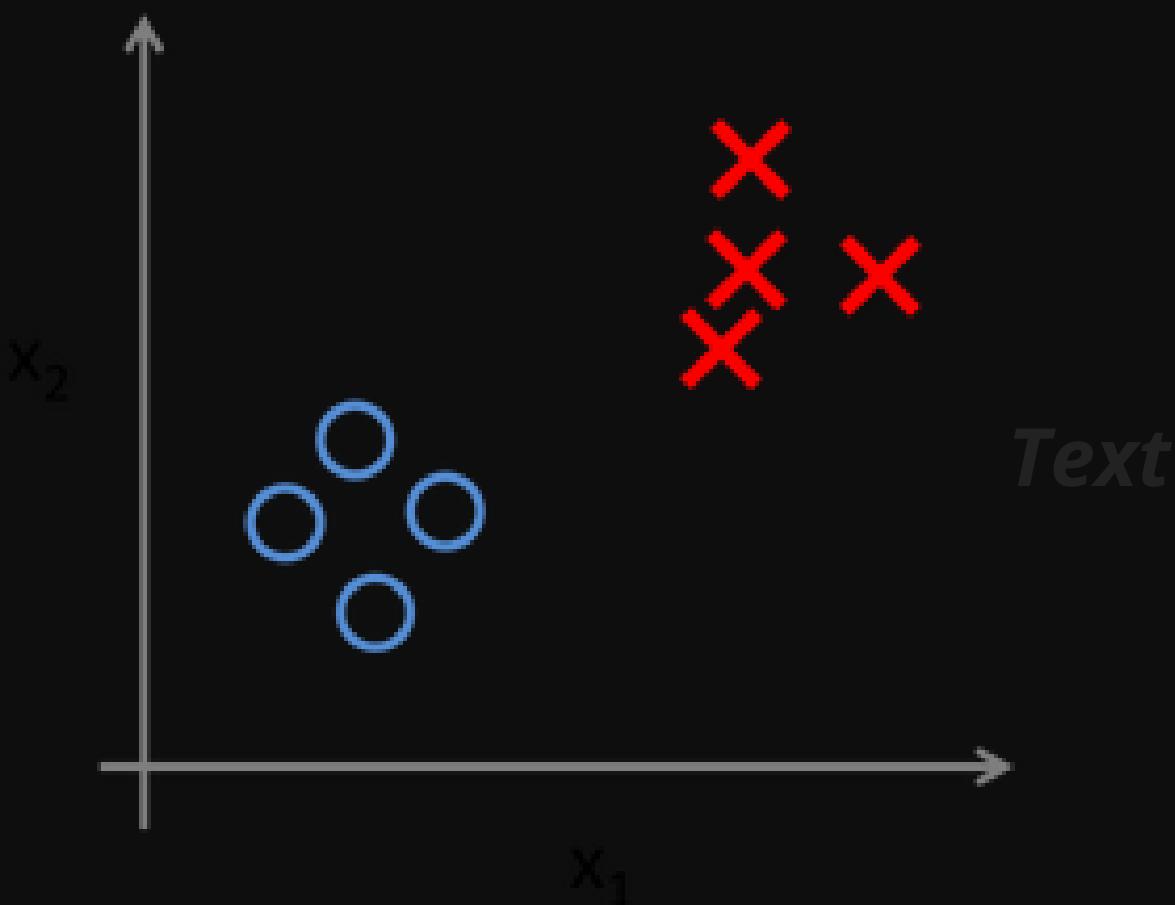
ML ALGORITHM



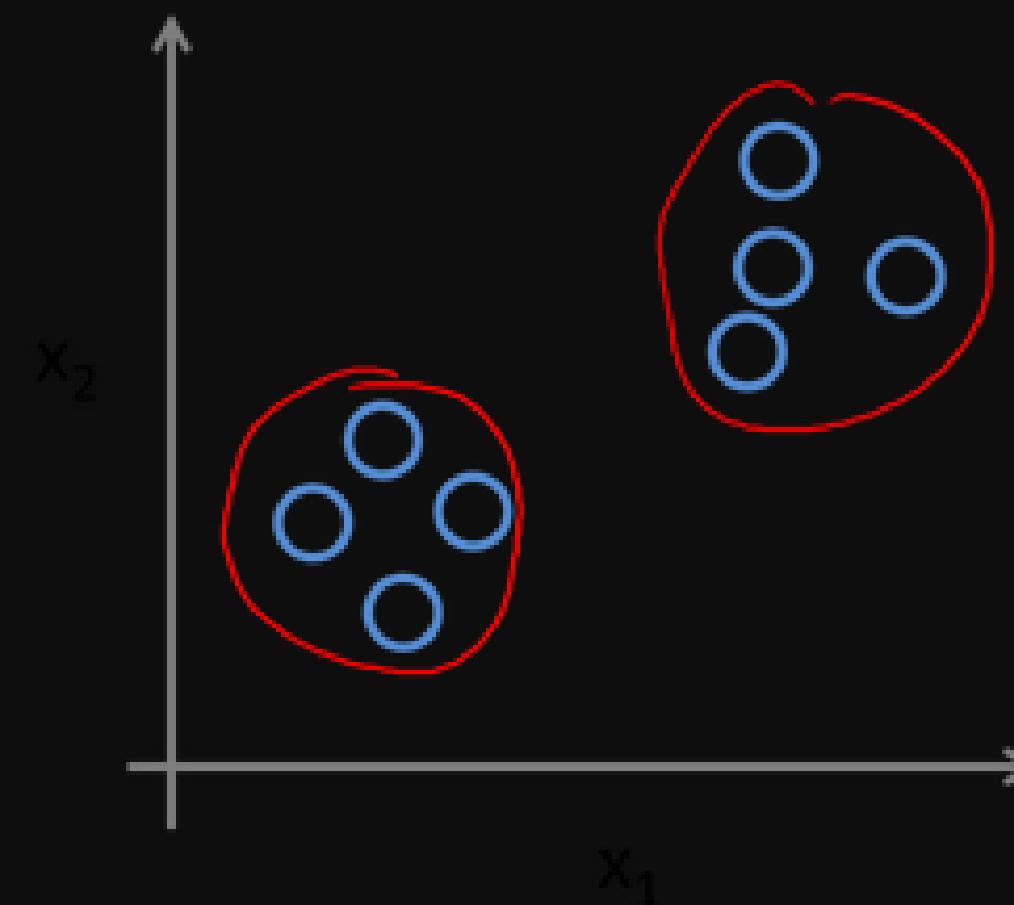
SUPERVISED LEARNING & UNSUPERVISED LEARNING



Supervised Learning



Unsupervised Learning



CLASSIFICATION AND REGRESSION



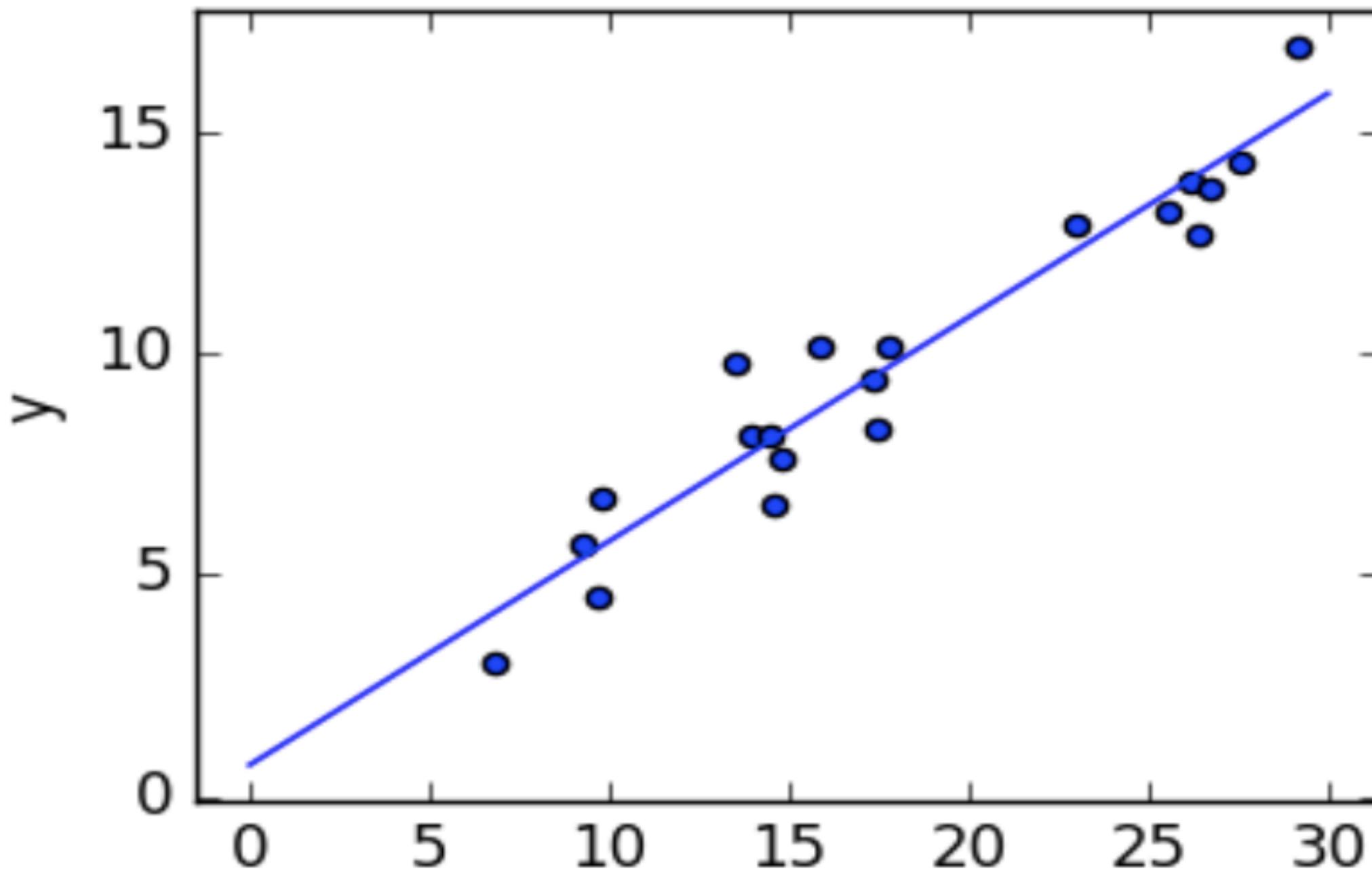
Classification:

- 1) *Classify as dog or cat.*
- 2) *Classes can any numbers*
- 3) *predict classes from observation*

Regression:

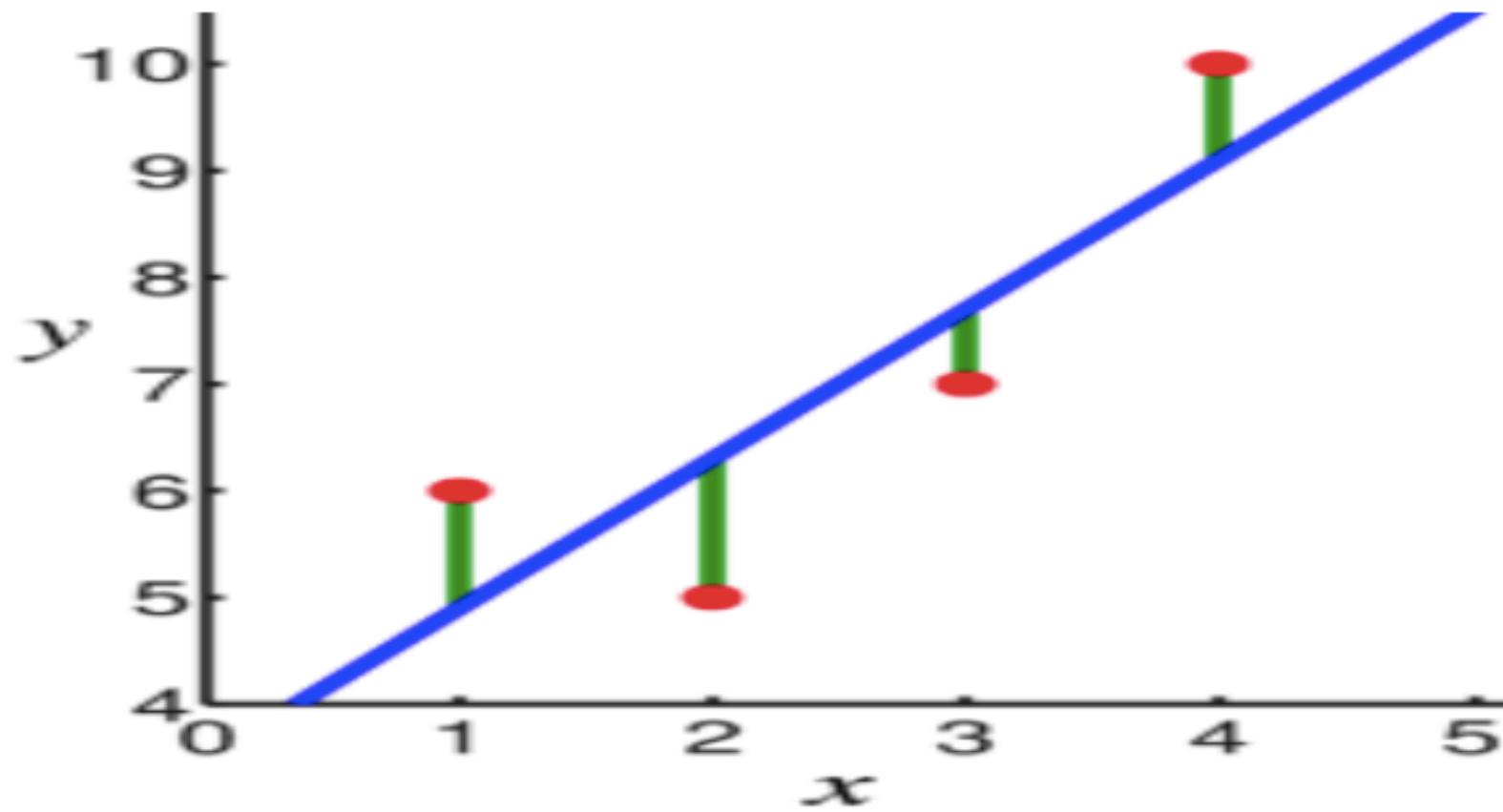
- 1) *it is used to predict value using previous data.*

HEADING





RMSE

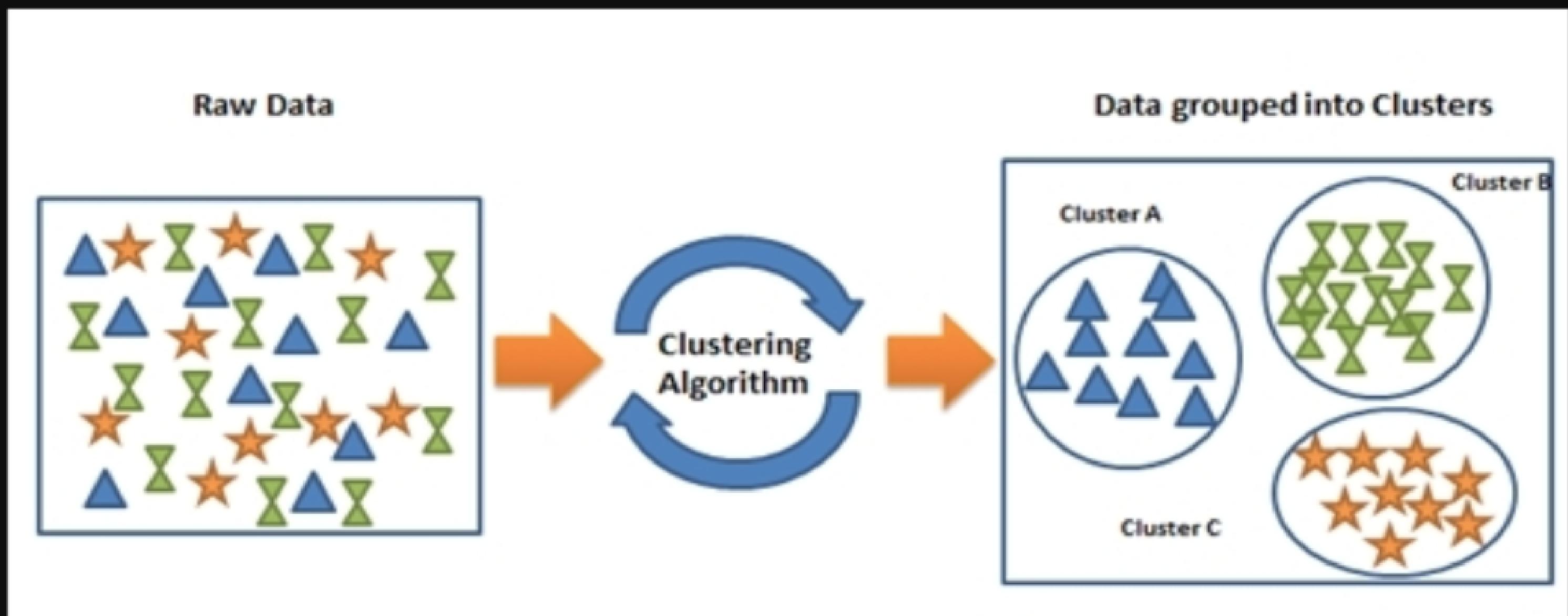


$$\text{RMSE} = \sqrt{\frac{1}{n} \sum_{j=1}^n (y_j - \hat{y}_j)^2}$$

CLASSIFICATION

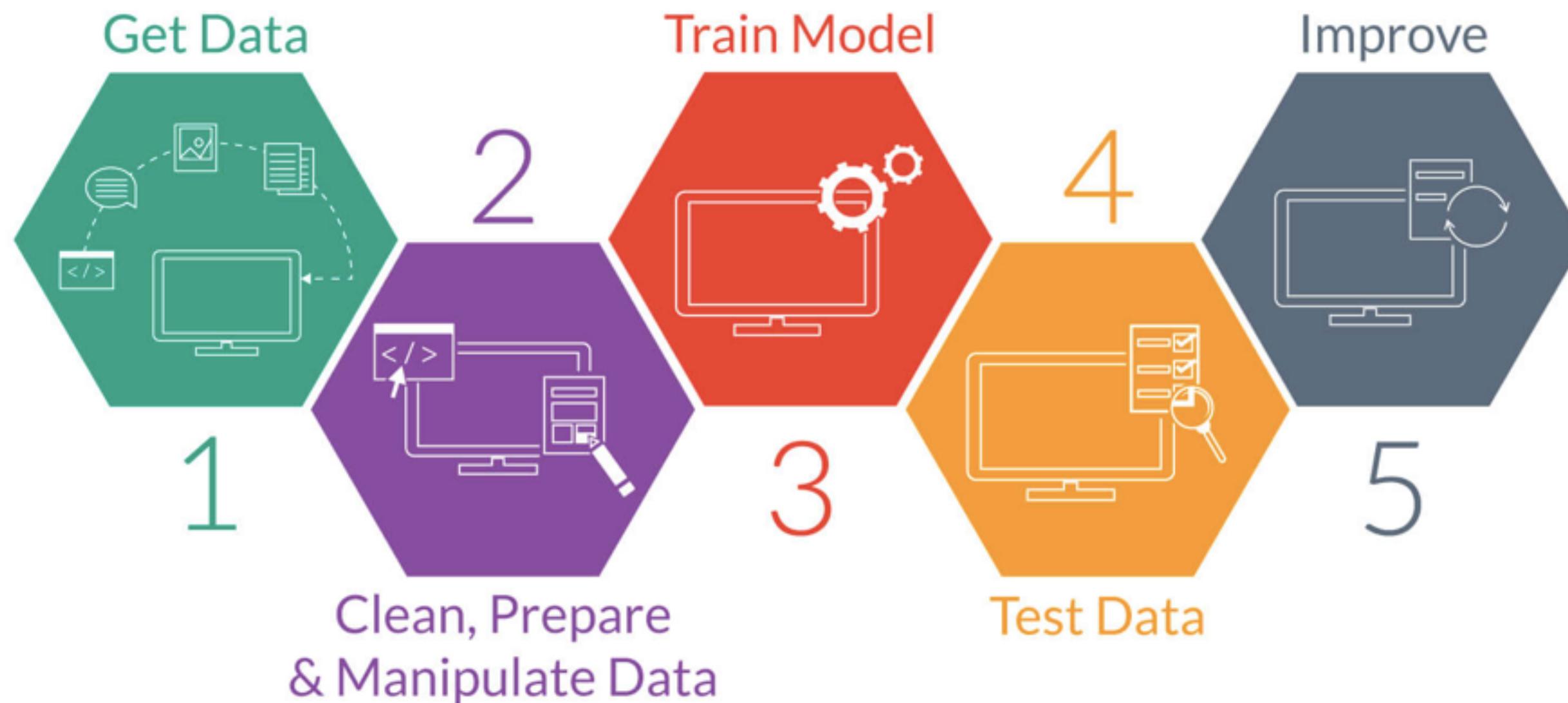


CLUSTERING



HEADING

Steps to Predictive Modelling



PERFORMANCE MEASURE



- Classification:
 - 1) Accuracy: percent of predictions that were correct.
 - 2) Recall or sensitivity: percent of positives cases that you were able to catch
 - 3) Precision: percent of positive predictions that were correct.

HEADING

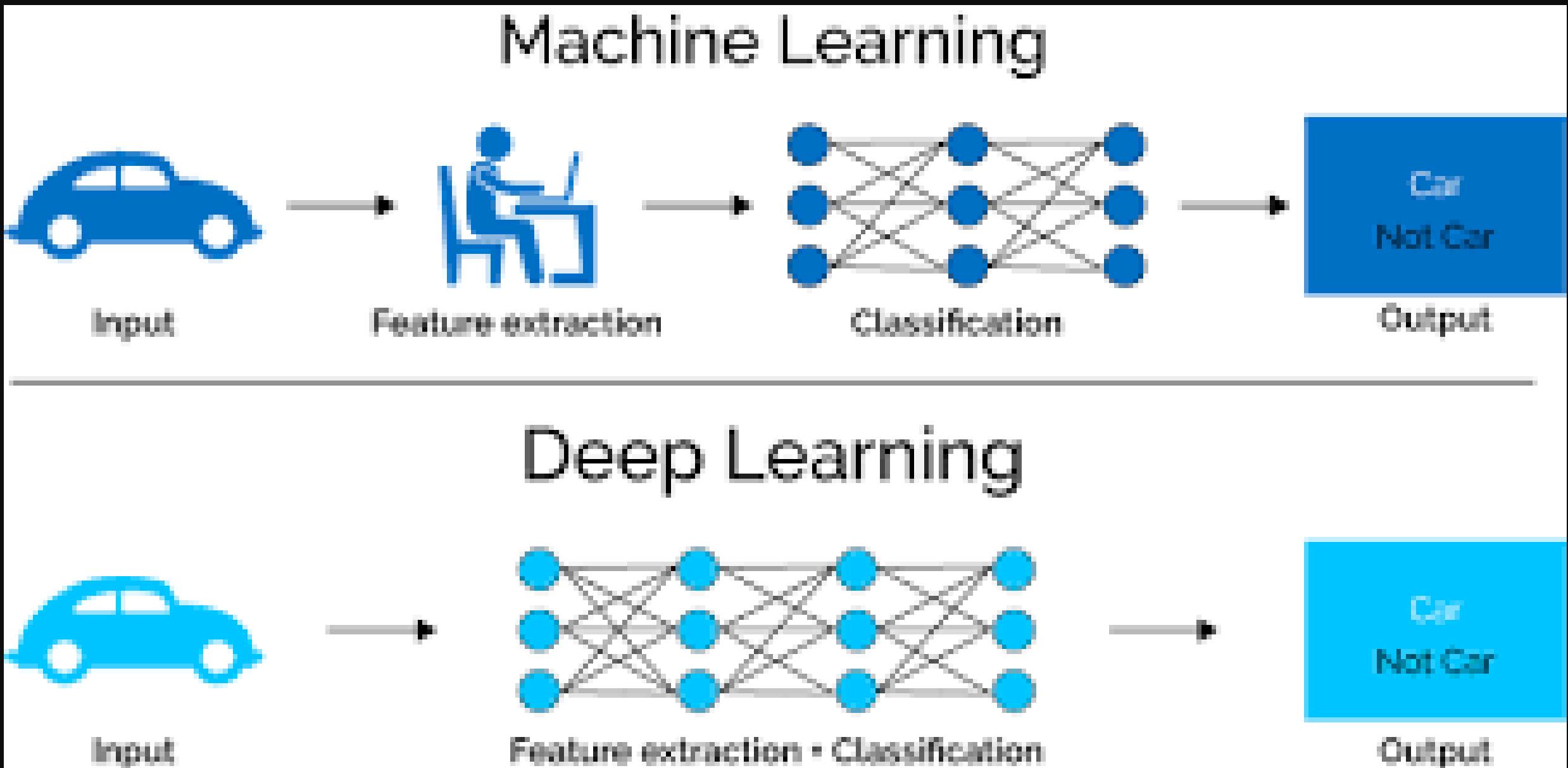


How many selected items are relevant?

$$\text{Precision} = \frac{\text{Green Circle}}{\text{Red and Green Circle}}$$

How many relevant items are selected?

$$\text{Recall} = \frac{\text{Green Circle}}{\text{Green and Red Circle}}$$



CPU VS GPU



- 1) CPU is composed of just a few cores with lots of cache memory that can handle a few software threads at a time.
In contrast, a GPU is composed of hundreds of cores that can handle thousands of threads simultaneously.
- 2) The ability of a GPU with 100+ cores to process thousands of threads can accelerate some software by 100x over a CPU alone.
What's more, the GPU achieves this acceleration while being more power- and cost-efficient than a CPU

THANK YOU