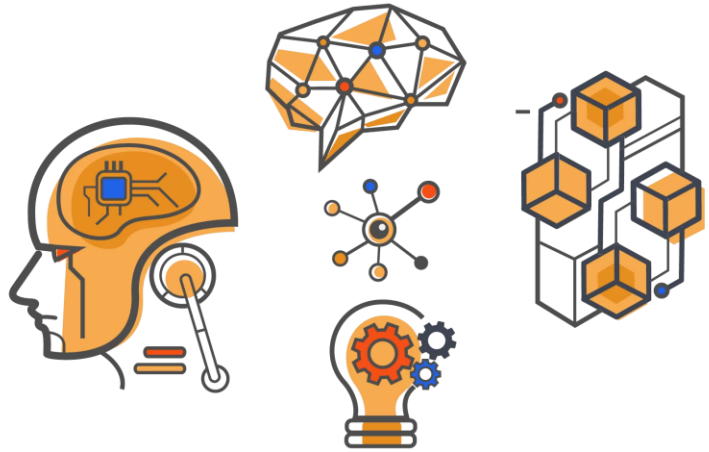
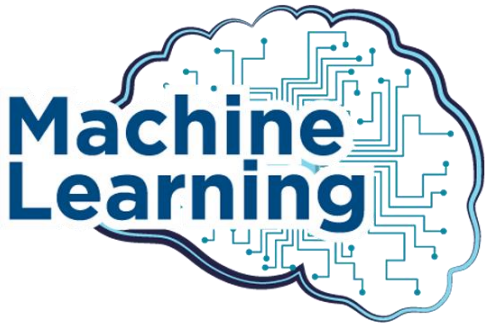
Siddhardhan

What is a Machine Learning Model?



Machine Learning

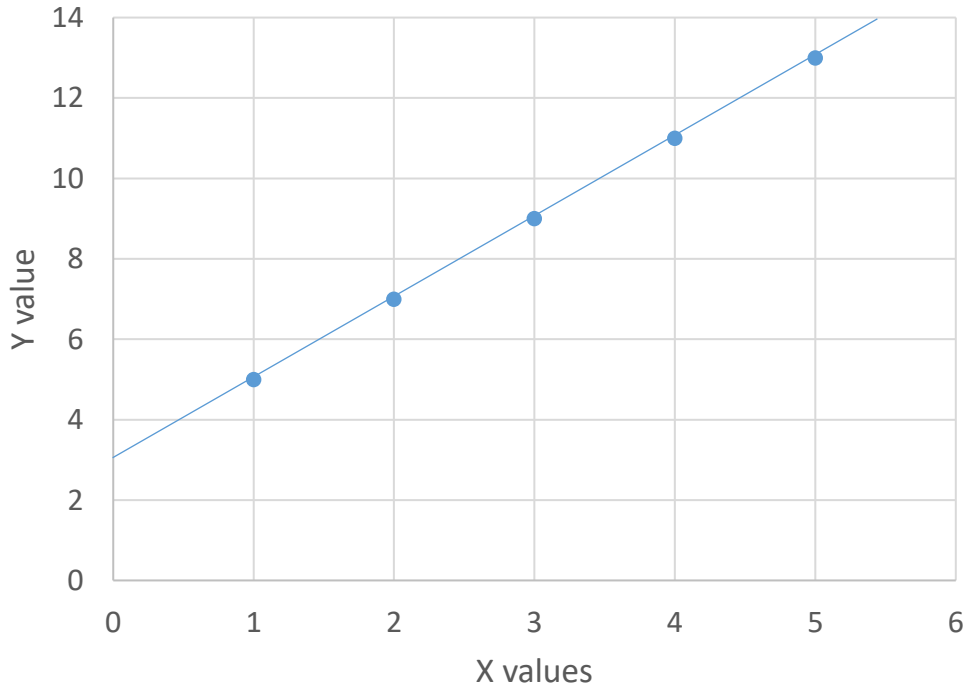


Data

Machine Learning Models

Machine Learning Model

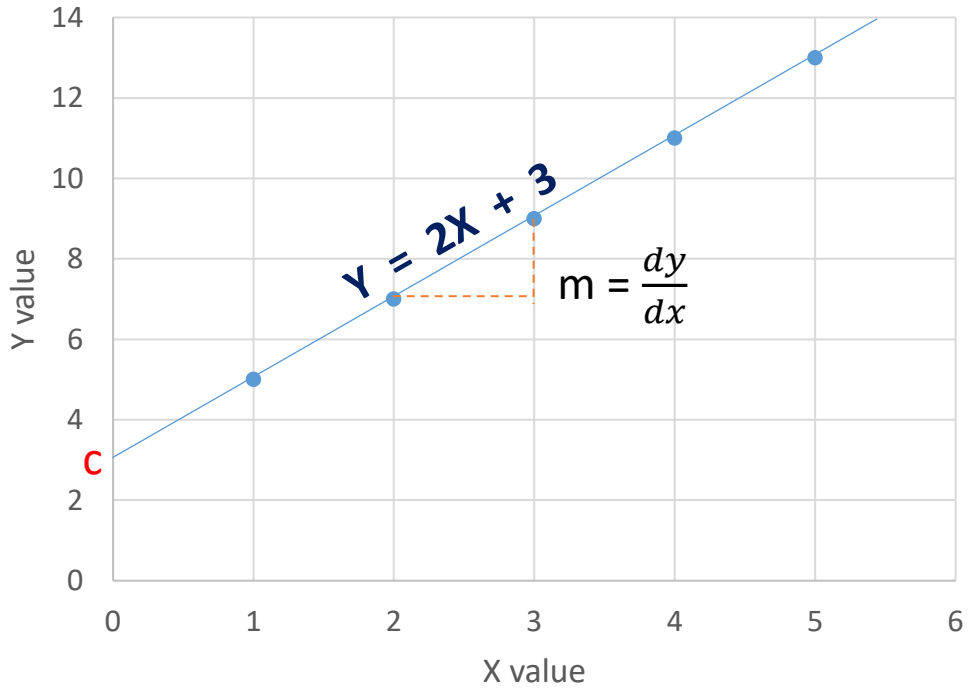
X	1	2	3	4	5
Y	5	7	9	11	13



$Y = mX + c$

X --> X value
Y --> Y value
m --> Slope
c --> Intercept

Machine Learning Model



Inference: The above Line equation is a function that relates X and Y.
For a given value of X, we can find the corresponding value of Y

Equation of a Straight Line : **Y = mX + c**

Find the values of m and c:

Point P1 (2,7)
Point P2 (3,9)

Slope, m = $\frac{y_2 - y_1}{x_2 - x_1} = \frac{9 - 7}{3 - 2} = 2$

m = 2

Intercept, c:

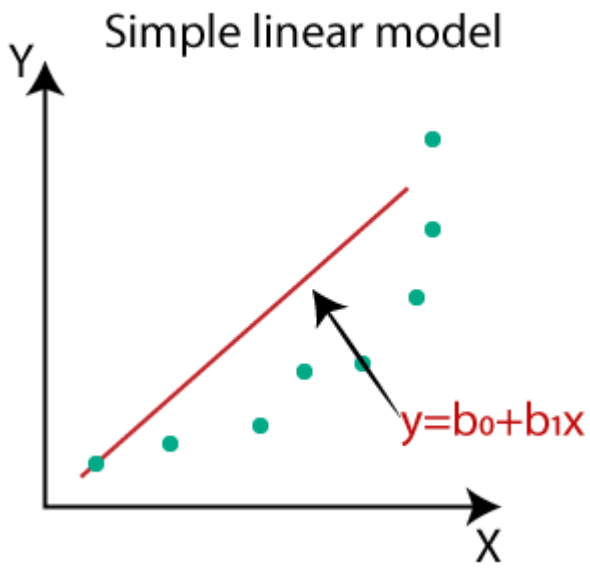
Point (4,11)

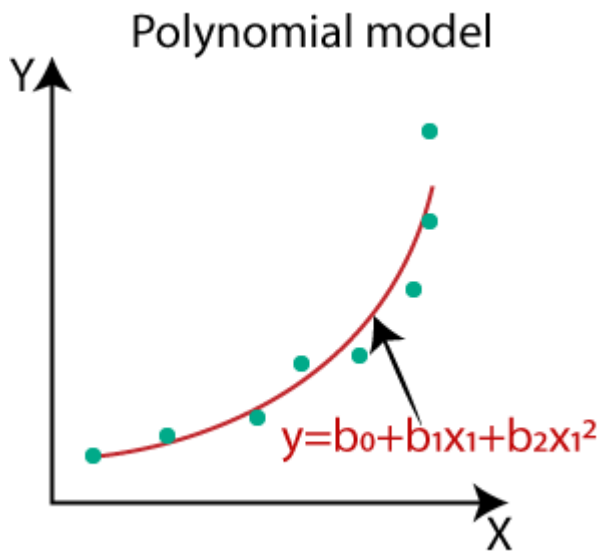
Y = 2X + c

11 = 2(4) + c

c = 3

Machine Learning Model





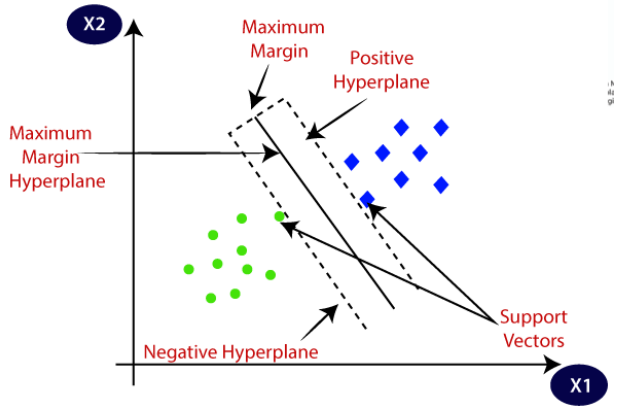
We cannot have a linear relationship between the variables all the time.

Machine Learning Model

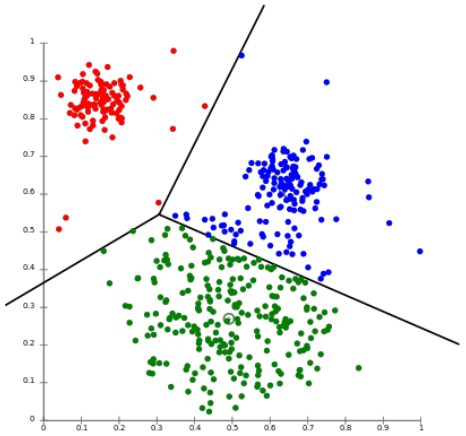
A **Machine Learning Model** is a function that tries to find the relationship between the Features and the Target variable.

It tries to find the pattern in the data, understand the data and trains on the data. Based on this learning, a Machine Learning Model makes Predictions and recognize patterns.

Logistic Regression



Support Vector Machine



K-Means Clustering

Topics covered in this module:

1. What is a Machine Learning Model?
2. Supervised ML Models
3. Unsupervised ML Models
4. Model Selection
5. Overfitting
6. Underfitting
7. Model Optimization
8. Loss Function
9. Model Evaluation