ML model

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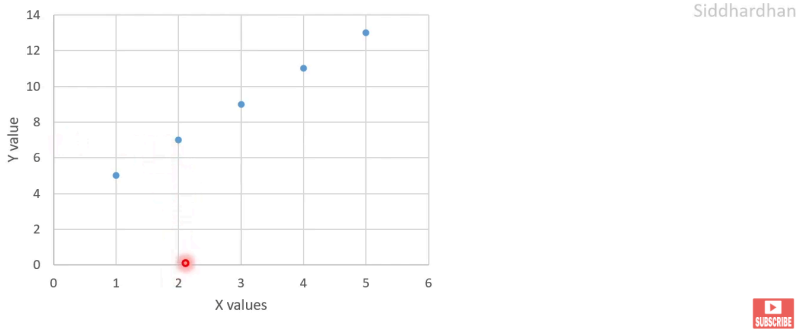
we want a system to recognize a dog or cat,, we feed images of dog and cat images to ML model and the model learns from it,,, after that we can use the model to recognize the animal

Model:

we can solve the quadratic equations that relates X and Y by finding the relationship between them by plotting the data of X and Y

Machine Learning Model

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



we can see that all these point lie in a straight line, so we can find the line of equaTION of line Y=mx+c, find the M and C then we can find the actual relationship between X and Y.

finding the values of X and Y :

example: take two pints P1 and P2 the you can find the slope by using the formula for slope

$$\text{Slope, m} = \frac{y_2 - y_1}{x_2 - x_1}$$

Now solving this equation gives us value for m.

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

Find the values of m and c:

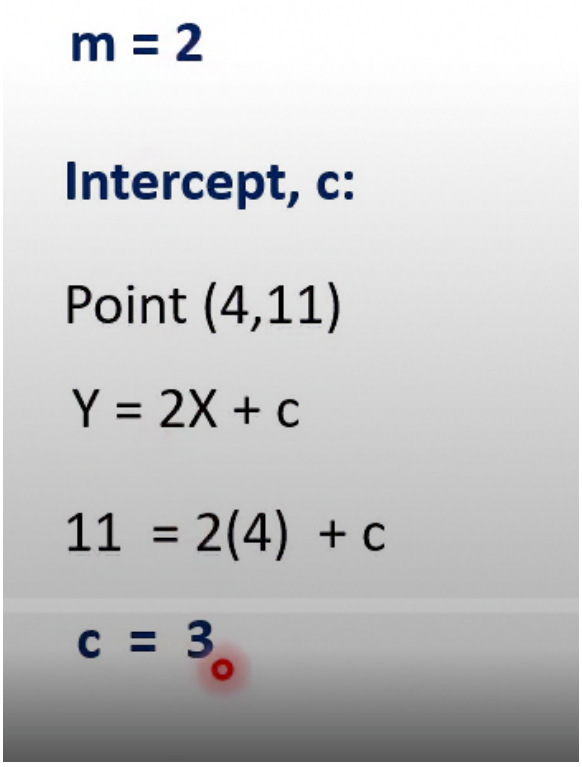
Point P1 (2,7)
Point P2 (3,9)

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

Finding the Value of C:

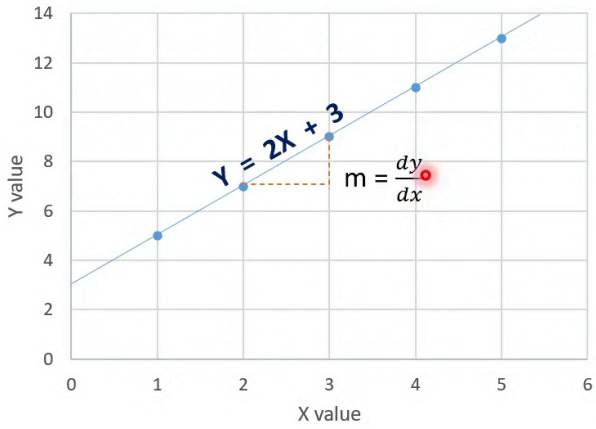
put the value of m in y=mx+c with corresponding values.

solve for C.

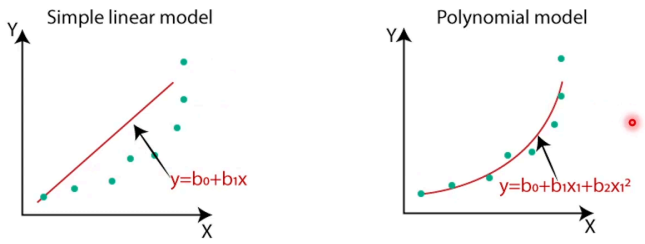


Equation of Line will be :

Y=2X+3



so how tf do we do that using machine learning?



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

we find the function. which can take any input x or y and can determine the other unknown variable(s) using that function

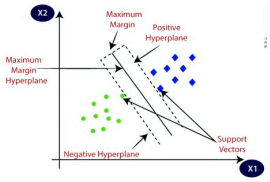
Machine Learning Model

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

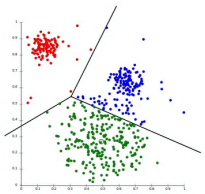
It tries to find the pattern in the data, understand the data and trains on the data. Based on this learning, a Machine Learning Model makes Predictions and recognize patterns.

Siddhardha

Logistic Regression



Support Vector Machine



K-Means Clustering