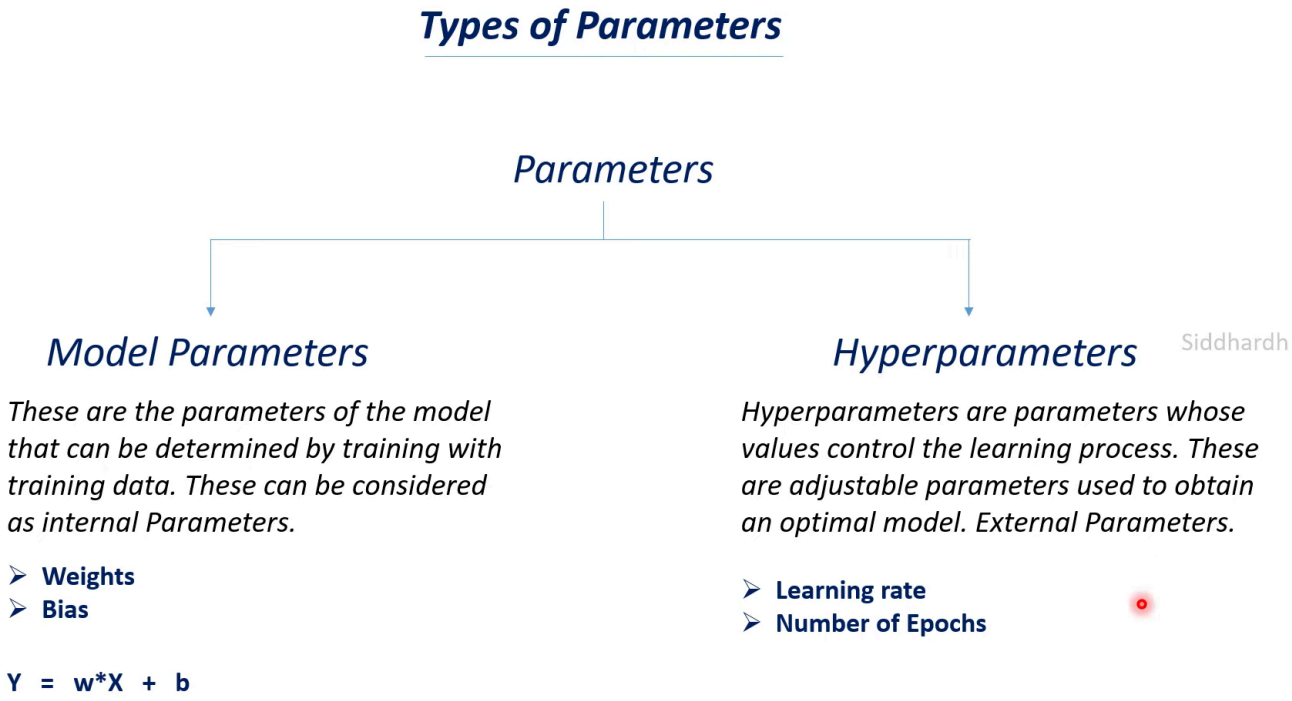
Model Parameters and Hyperparameters

w and b are model parameters in straight line equation.

Number of Epochs = number of times we are training the model with our data.



Weights = it decides how much influence the input will have on the output.

Example: college degree, python knowledge, backlogs are weights in getting a job.

Weights:

Weight decides how much influence the input will have on the output.

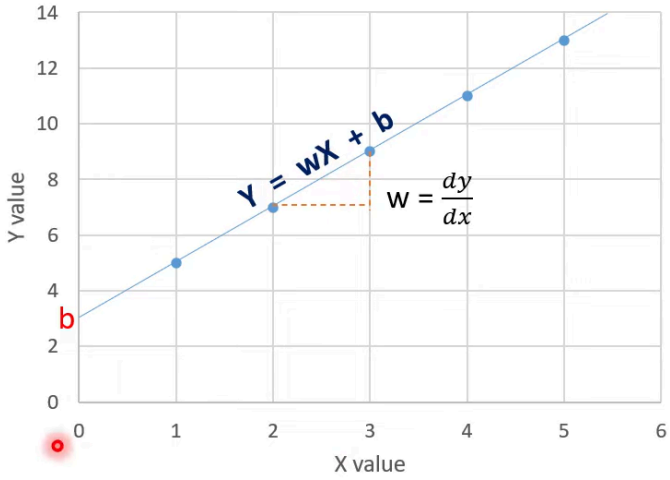
$Y = w*X + b$

$Y = w_1*X_1 + w_2*X_2 + w_3*X_3 + b$

X – feature or input variable
Y – Target or output variable
w – weight
b – bias

Bias:

Bias is the offset value given to the model. Bias is used to shift the model in a particular direction. It is similar to a Y-intercept. 'b' is equal to 'Y' when all the feature values are zero.



Y = wX + b

X --> X value
Y --> Y value
w --> weight
b --> bias

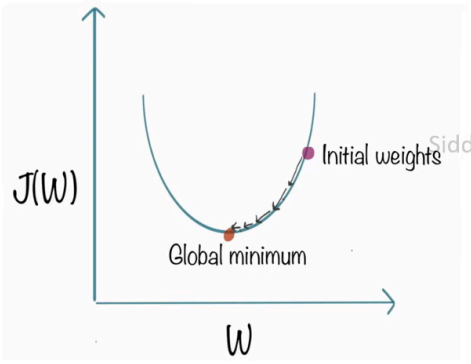
We can change the slope or other factors in the equation but the bias will not change. When we change the intercept then the bias is changed.

Hyperparameters

Hyperparameters

Learning Rate:

The **Learning Rate** is a tuning parameter in an optimization algorithm that determines the step size at each iteration while moving toward a minimum of a loss function.



Gradient Descent

Number of Epochs:

Number of Epochs represents the number of times the model iterates over the entire dataset.

Less number if Epochs can cause underfitting and more can cause overfitting.