



# Model Parameters and Hyperparameters

Created	@August 2, 2025
Edited	@August 2, 2025 7:17 AM
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## Model Parameters:

These are the Parameters of the model that can be determined by training with training data. These can be considered as internal Parameters

1. Weights
2. Bias

$$Y = w * X + b$$

## Hyperparameters:

These are parameters whose values control the learning process. These are adjustable parameters used to obtain an optimal model. External Parameters.

1. Learning Rate
2. Number of Epochs

## Weights:

It decides how much influence the input will have on the output

$$Y = w * X + b$$



X – feature or input variable

Y – Target or output variable

w – weight

b – bias

Question I have in my Mind: How do we Find the value of w for each feature?

### **Bias(Offset) :**

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.

## **Hyperparameters:**

### **Learning Rate:**

It 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.

### **Number of Epochs:**

It represents the number of times the model iterates over the entire dataset.