

47. HyperParameter Tuning, Model Parameter

47.1 What is a model parameter

Model Parameter are configuration variables that are internal to the model, and a model learns them on its own.

In following equation:

$$y = mx + c$$

m and **c** are model parameters

47.2 Hyperparameter

- **Hyperparameters** are those parameters that are explicitly defined by the user to control the learning process.
- The best value can be determined either by the rule of thumb or by trial and error.
- These are usually default parameters.



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Hyperparameter Tuning: Models can have many hyperparameters and finding the best combination of parameters can be treated as a search problem. The two best strategies for Hyperparameter tuning are:

1. GridSearchCV
2. RandomizedSearchCV

47.2.1 GridSearchCV

- GridSearchCV is a technique to search through the best parameter values from the given set of the grid of parameters
- slower processing in case of large data



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47.2.2 RandomizedSearchCV

- It goes through only a fixed number of hyperparameter settings
- It moves within the grid in a random fashion to find the best set of hyperparameters

In []: