**CLASSIFICATION**

Classification is a supervised machine learning method where the model tries to predict the correct label of a given input data. In classification, the model is fully trained using the training data, and then it is evaluated on test data before being used to perform prediction on new unseen data.

**Lazy Learners Vs. Eager Learners**

There are two types of learners in machine learning classification: lazy and eager learners.

Eager learners are machine learning algorithms that first build a model from the training dataset before making any prediction on future datasets. They spend more time during the training process because of their eagerness to have a better generalization during the training from learning the weights, but they require less time to make predictions.

Most machine learning algorithms are eager learners, and below are some examples:

Logistic Regression.

Support Vector Machine.

Decision Trees.

Artificial Neural Networks.

Lazy learners or instance-based learners, on the other hand, do not create any model immediately from the training data, and this is where the lazy aspect comes from. They just memorize the training data, and each time there is a need to make a prediction, they search for the nearest neighbor from the whole training data, which makes them very slow during prediction. Some examples of this kind are:

K-Nearest Neighbor.

Case-based reasoning.

However, some algorithms, such as BallTrees and KDTrees, can be used to improve the prediction latency.