- Classification machine learning models predict the class of an item based on its features.

- Machine learning models can be represented by the equation: y = f(x)

- Features are represented as a vector (x), and labels (y) represent the class.

- In the iris flower example, the features are sepal and petal measurements, and the labels are the species (Setosa, Versicolor, Virginica).

- The model calculates a probability vector (y) for each possible class.

- The model is trained on labeled data and validated on unseen data.

- A confusion matrix shows the accuracy of the model by comparing predicted and actual classes.

- A diagonal trend in the confusion matrix indicates high accuracy.