

ML Concepts

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Estimated module length: 70 minutes

Learning objectives

Determine an appropriate threshold for a binary classification model.

Calculate and choose appropriate metrics to evaluate a binary classification model.

Interpret ROC and AUC.

Prerequisites:

This module assumes you are familiar with the concepts covered in the following modules:

Introduction to Machine Learning

Linear regression

Logistic regression

In the [Logistic regression module](#), you learned how to use the [sigmoid function](#) to convert raw model output to a value between 0 and 1 to make probabilistic predictions—for example, predicting that a given email has a 75% chance of being spam. But what if your goal is not to output probability but a category—for example, predicting whether a given email is "spam" or "not spam"?

[Classification](#) is the task of predicting which of a set of [classes](#) (categories) an example belongs to. In this module, you'll learn how to convert a logistic regression model that predicts a probability into a [binary classification](#) model that predicts one of two classes. You'll also learn how to choose and calculate appropriate metrics to evaluate the quality of a classification model's predictions. Finally, you'll get a brief introduction to [multi-class classification](#) problems, which are discussed in more depth later in the course.

Key terms:

Binary classification

Class

Classification

Multi-class classification

Sigmoid function

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Test your knowledge (10 min)

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Thresholds and the confusion matrix (12 min)

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