

Evaluating Logistic Regression Models: Takeaways



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Syntax

- Calculate the accuracy of the model predictions:

```
from sklearn.metrics import accuracy_score
accuracy_score(true_classes, predicted_classes)
```

- Predict the class labels using the logistic regression:

```
predictions = model.predict(X)
accuracy_score(y, predictions)
```

Concepts

- Accuracy measures the percentage of observations that had the correct prediction:

$$\text{Accuracy} = \frac{\# \text{ Correct Predictions}}{\# \text{ Observations}}$$

- Sensitivity measures the percentage of **1** labels that were correctly identified as such:

$$\text{Sensitivity} = \frac{\# \text{ True Positives}}{\# \text{ True Positives} + \# \text{ False Negatives}}$$

- Specificity measures the percentage of **0** labels that were correctly identified as such:

$$\text{Specificity} = \frac{\# \text{ True Negatives}}{\# \text{ True Negatives} + \# \text{ False Positives}}$$

- Positive predictive value measures the percentage of **1** predictions that were actually **1** labels:

$$\text{PPV} = \frac{\# \text{ True Positives}}{\# \text{ True Positives} + \# \text{ False Positives}}$$

- Negative predictive value measures the percentage of **0** predictions that were actually **0** labels:

$$\text{NPV} = \frac{\# \text{ True Negatives}}{\# \text{ True Negatives} + \# \text{ False Negatives}}$$

Resources

- [More on Binary Classification Metrics](#)