



Mastering Confusion Matrix in Python: A Comprehensive Guide



Introduction

Confusion matrix is a performance measurement tool for classification algorithms. It is a table that summarizes the *predicted* and *actual* values of a model. In this presentation, we will explore how to create and interpret confusion matrices using Python.

True Positive

A **True Positive (TP)** is when the model correctly predicts a positive class. It means the model has correctly identified the presence of a condition.

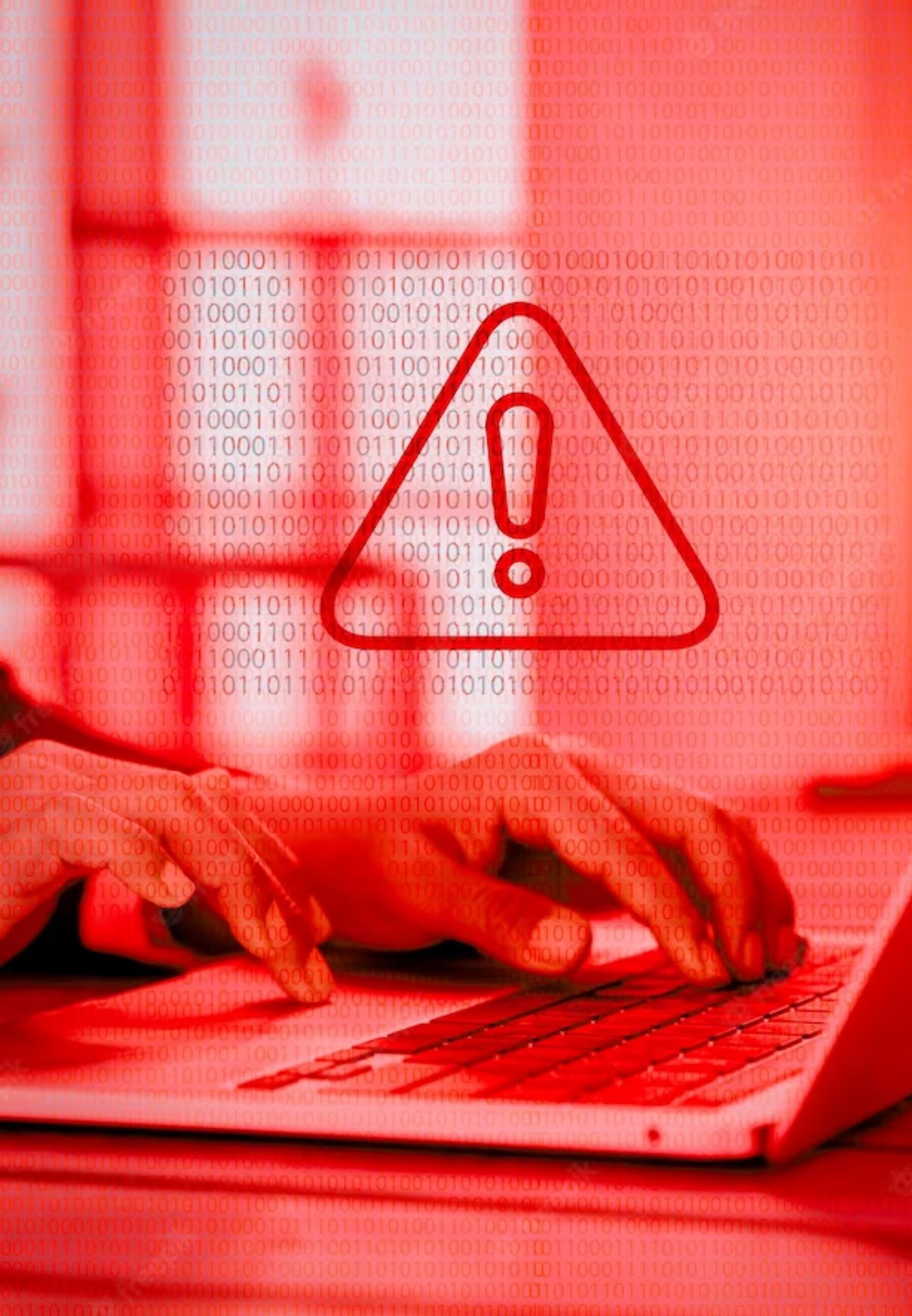
TP is an important metric in medical and finance domains.





False Positive

A **False Positive (FP)** is when the model incorrectly predicts a positive class. It means the model has identified a condition that is not actually present. FP is an important metric in spam detection and credit card fraud detection.



True Negative

A **True Negative (TN)** is when the model correctly predicts a negative class. It means the model has correctly identified the absence of a condition. TN is an important metric in quality control and network security.



False Negative

A **False Negative (FN)** is when the model incorrectly predicts a negative class. It means the model has failed to identify a condition that is actually present. FN is an important metric in medical and security domains.

Conclusion

Confusion Matrix is a powerful tool in evaluating the performance of classification models. It provides a clear picture of the model's strengths and weaknesses. By understanding the metrics, you can make informed decisions about the model's performance and make improvements. Python has many libraries that make it easy to create and interpret confusion matrices.

Thanks!

