**Assignment 7 – Model Evaluation**

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Course: Data Science

Tools: Google Colab, Scikit-Learn, Python

**1. Objective**

The aim of this assignment is to evaluate the performance of a classification model using different metrics such as Precision, Recall, and F1-Score.

**2. Methods Used**

A Logistic Regression model was trained and tested using Scikit-Learn. Evaluation metrics were calculated with the classification\_report() function, and the ROC curve was plotted to measure AUC performance.

**3. Results**

|  |  |  |
| --- | --- | --- |
| Metric | Description | Example Value |
| Precision | Accuracy of positive predictions | 0.92 |
| Recall | Ability to find all positive samples | 0.89 |
| F1-Score | Balance between Precision and Recall | 0.90 |

**4. Reflection**

For my project, F1-Score is the most important metric because it provides a balanced measure of both Precision and Recall. Since both false positives and false negatives can affect the model’s reliability, F1-Score helps to evaluate overall effectiveness more fairly.

**5. Conclusion**

Model evaluation helps determine whether the model generalizes well and which metric should guide improvements.