# Classification Performance Summary

## 1. Introduction

This report summarizes the classification performance results obtained from the analysis of two datasets: the Iris dataset and a Simulated dataset. The evaluation metrics include accuracy, precision, recall, and F1-score.

## 2. Classification Results

### 2.1. Iris Dataset

Accuracy: 90.00%

Classification Report:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Class | Precision | Recall | F1-Score | Support |
| 0 | 1.00 | 1.00 | 1.00 | 10 |
| 1 | 0.82 | 0.90 | 0.86 | 10 |
| 2 | 0.89 | 0.80 | 0.84 | 10 |

Overall Metrics:  
Macro Average: Precision: 0.90 | Recall: 0.90 | F1-Score: 0.90  
Weighted Average: Precision: 0.90 | Recall: 0.90 | F1-Score: 0.90

### 2.2. Simulated Dataset

Accuracy: 90.00%

Classification Report:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Class | Precision | Recall | F1-Score | Support |
| 0 | 1.00 | 0.70 | 0.82 | 10 |
| 1 | 0.91 | 1.00 | 0.95 | 10 |
| 2 | 0.83 | 1.00 | 0.91 | 10 |

Overall Metrics:  
Macro Average: Precision: 0.91 | Recall: 0.90 | F1-Score: 0.90  
Weighted Average: Precision: 0.91 | Recall: 0.90 | F1-Score: 0.90

## 3. Conclusion

Both datasets yielded an accuracy of 90%, demonstrating effective classification performance. The results indicate a well-performing model with balanced precision, recall, and F1-scores. Future improvements may include hyperparameter tuning and data augmentation for further optimization.