Project Development Phase Model Performance Test

Date	27 June 2025
Team ID	LTVIP2025TMID34246
Project Name	Transfer Learning-Based on Classification of
	Poultry Diseases for Enhanced Health
	Management
Maximum Marks	10 Marks

Model Performance Testing:

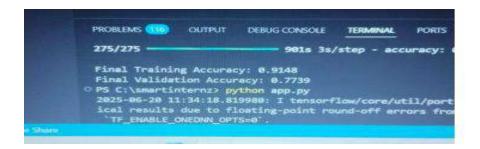
Project team shall fill the following information in model performance testing template.

S.No.	Parameter	Values
1.	Metrics	Regression Model:
1.	ivietrics	MAE -N/A ,
		MSE – N/A,
		RMSE - N/A,
		RIVISE -IN/A , R2 score -N/A
		R2 Score -N/A
		Classification Model:
		Accuray Score-91%
		Classification Report - Precision, Recall, F1-score for each class
		Classification Report:
		- Class 0: Precision 0.91, Recall 0.97, F1-Score 0.94
		- Class 1: Precision 0.91, Recall 0.91, F1-Score 0.91
		- Class 2: Precision 0.94, Recall 0.94, F1-Score 0.94
		- Class 3: Precision 0.97, Recall 0.94, F1-Score 0.95
2.	Tune the Model	Hyperparameter Tuning –
		Learning Rate = 0.0001,
		Optimizer = Adam,
		Batch Size = 16,
		Epochs = 10
		Validation Method -
		Train-Validation Split using separate folders (/train, /val)

Tuning Model

```
train_data,
         validation_data=val_data,
         epochs=EPOCHS,
84
         callbacks=[checkpoint, early_stop],
         verbose=1
JUPYTER PROBLEMS TO OUTPUT DEBUG CONSOLE TERMINAL PORTS JUPYTER
242/242
                       25779s 107s/step - accuracy: θ.6142 - loss: θ.9767 - val_accuracy: θ.7234 - val_loss: θ.9340
Epoch 2/10
Epoch 3/10
242/242
                         - 5146 2s/step - accuracy: 0.9041 - loss: 0.2639 - val_accuracy: 0.7242 - val_loss: 1.2140
                         - 432s 2s/step - accuracy: 0.9234 - loss: 0.2148 - val_accuracy: 0.7368 - val_loss: 1.2623
 Epoch 5/10
242/242
                          1576s 7s/step - accuracy: 0.9367 - loss: 0.1760 - val_accuracy: 0.7200 - val_loss: 1.3335
```

Accuracy score



Validation Folder Structure

```
Poultry dataset
Project
archive \ data
 test
 coccidiosis
   Healthy
   New Castle Disease
  Salmonella
 train
 Coccidiosis
 ► Healthy
 New Castle Disease
 ▶ Salmonella
 val
 Coccidiosis
 ► Healthy
 New Castle Disease
 ► Salmonella
```