

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: MAE -N/A , MSE – N/A, RMSE -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)

Screenshots

Tuning Model

```
81     model.fit(  
82         train_data,  
83         validation_data=val_data,  
84         epochs=EPOCHS,  
85         callbacks=[checkpoint, early_stop],  
86         verbose=1  
87     )
```

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242/242 Epoch 2/10 25779s 107s/step - accuracy: 0.6142 - loss: 0.9767 - val_accuracy: 0.7234 - val_loss: 0.9340

242/242 0s 1s/step - accuracy: 0.8695 - loss: 0.3825 WARNING: absl: You are saving your model as an HDF5 file using 'model.save_model(model)'. This file format is considered legacy. We recommend using instead the native Keras format, e.g. 'model.save_model(model, 'my_model.keras')'.

242/242 489s 2s/step - accuracy: 0.8694 - loss: 0.3824 - val_accuracy: 0.7433 - val_loss: 0.7960

242/242 Epoch 3/10 514s 2s/step - accuracy: 0.9041 - loss: 0.2639 - val_accuracy: 0.7242 - val_loss: 1.2140

242/242 Epoch 4/10 432s 2s/step - accuracy: 0.9234 - loss: 0.2148 - val_accuracy: 0.7368 - val_loss: 1.2623

242/242 Epoch 5/10 1576s 7s/step - accuracy: 0.9367 - loss: 0.1760 - val_accuracy: 0.7200 - val_loss: 1.3335

Accuracy score

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275/275 901s 3s/step - accuracy: 0.9148

Final Training Accuracy: 0.9148
Final Validation Accuracy: 0.7739

PS C:\smartinternz> python app.py
2025-06-20 11:34:18.819580: I tensorflow/core/util/port.cc:113] OneDNN: Enable OneDNN for float16 and float32 matmul on x86_64 CPUs.
TF_ENABLE_ONEDNN_OPTS=0

Validation Folder Structure

