

Project Development Phase

Model Performance Test

Date	19 January 2026
Team ID	LTVIP2026TMIDS83701
Project Name	Smart Sorting: Transfer learning for identifying Rotten Fruits and Vegetables
Maximum Marks	10 Marks

Model Performance Testing:

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

S.No.	Parameter	Values	Screenshot
1.	Model Summary	<p>Model: MobileNetV2 (Transfer Learning) with an added Dense layer. Total parameters: 2,586,948. Trainable parameters: 328,964. Non-trainable parameters: 2,257,984.</p>	<pre> History = ModelHistory: questions_val:0.9462, accuracy_val:0.9462 Epoch 1/10 loss: 0.0000, acc: 0.0000, val_loss: 0.0000, val_acc: 0.0000 Epoch 2/10 loss: 0.0000, acc: 0.0000, val_loss: 0.0000, val_acc: 0.0000 Epoch 3/10 loss: 0.0000, acc: 0.0000, val_loss: 0.0000, val_acc: 0.0000 Epoch 4/10 loss: 0.0000, acc: 0.0000, val_loss: 0.0000, val_acc: 0.0000 Epoch 5/10 loss: 0.0000, acc: 0.0000, val_loss: 0.0000, val_acc: 0.0000 Epoch 6/10 loss: 0.0000, acc: 0.0000, val_loss: 0.0000, val_acc: 0.0000 Epoch 7/10 loss: 0.0000, acc: 0.0000, val_loss: 0.0000, val_acc: 0.0000 Epoch 8/10 loss: 0.0000, acc: 0.0000, val_loss: 0.0000, val_acc: 0.0000 Epoch 9/10 loss: 0.0000, acc: 0.0000, val_loss: 0.0000, val_acc: 0.0000 Epoch 10/10 loss: 0.0000, acc: 0.0000, val_loss: 0.0000, val_acc: 0.0000 </pre>
2.	Accuracy	<p>Training Accuracy – 0.89.3 (from Epoch 12/15)</p> <p>Validation Accuracy - 0.81462 (from Epoch 12/15)</p>	<pre> from sklearn.metrics import confusion_matrix, accuracy_score from sklearn.metrics import classification_report y_test = test_images.labels # set y_test to the expected output print(classification_report(y_test, pred2)) print("Accuracy of the Model:", "{:.1f}%".format(accuracy_score(y_test, pred2)*100)) precision recall f1 score support ----- rozitaph1 0.89 0.81 0.85 775 lymphocyte 0.90 0.99 0.94 762 monocyte 0.88 0.96 0.92 750 neutrophil 0.87 0.80 0.82 742 accuracy 0.89 0.89 macro avg 0.89 0.89 0.89 2968 weighted avg 0.89 0.89 0.89 2968 Accuracy of the Model: 89.3% </pre>
3.	Fine Tunning Result(if Done)	<p>Validation Accuracy - Fine-tuning of the pre-trained MobileNetV2 base model was not performed. Only the newly added dense layer was trained.</p>	<pre> from sklearn.metrics import confusion_matrix, accuracy_score from sklearn.metrics import classification_report y_test = test_images.labels # set y_test to the expected output print(classification_report(y_test, pred2)) print("Accuracy of the Model:", "{:.1f}%".format(accuracy_score(y_test, pred2)*100)) precision recall f1 score support ----- rozitaph1 0.89 0.81 0.85 775 lymphocyte 0.90 0.99 0.94 762 monocyte 0.88 0.96 0.92 750 neutrophil 0.87 0.80 0.82 742 accuracy 0.89 0.89 macro avg 0.89 0.89 0.89 2968 weighted avg 0.89 0.89 0.89 2968 Accuracy of the Model: 89.3% </pre>