

Project Development Phase

Model Performance Test

Date	19 Feb 2026
Team ID	LTVIP2026TMIDS66121
Project Name	Advanced Blood Cell Classification Using Transfer Learning
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.	Metrics	Classification Model: Accuracy Score- 0.893	<pre>import tensorflow as tf import numpy as np from sklearn.metrics import confusion_matrix class_labels = ["EOSINOPHIL", "LYMPHOCTE", "MONOCYTE", "NEUTROPHIL"] cm = confusion_matrix(y_true, pred) plt.figure(figsize=(8, 7)) sns.heatmap(cm, annot=True, fmt='d', cmap="Blues") plt.title('Confusion Matrix') plt.xlabel('Predicted') plt.ylabel('Actual') plt.show()</pre>
2.	Tune the Model	Hyperparameter Tuning - The notebook primarily focuses on training the added dense layers with a pre-trained MobileNetV2 model (frozen base layers). Adam optimizer was used with categorical crossentropy loss. The training ran for 15 epochs, with the best validation accuracy observed around epoch 11. Validation Method - A validation split of 0.2 was used during image data generation (validation_split=0.2).	<pre>pred = model.predict(test) pred = np.argmax(pred, axis=1) #pick class with highest probability labels = [train.class_indices] label = dict((v,k) for k,v in labels.items()) pred = [label[k] for k in pred] 374/374 [=====>] - 322s 880ms/step</pre> <pre>plt.plot(history.history['accuracy'] + history1.history['accuracy']) plt.plot(history.history['val_accuracy'] + history1.history['val_accuracy']) plt.title('model accuracy') plt.ylabel('accuracy') plt.xlabel('epoch') plt.legend(['train', 'val'], loc='upper left') plt.show()</pre>