
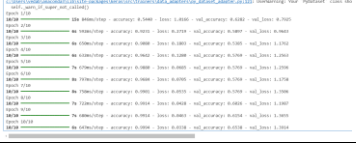


Project Development Phase Model Performance Test

Date	28 June 2025
Team ID	LTVIP2025TMID36584
Project Name	cleantech: transforming waste management with transfer learning
Maximum Marks	

Model Performance Testing:

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

S.No.	Parameter	Values	Screenshot
1.	Model Summary	The model used in CleanTech is based on MobileNetV2, a lightweight and efficient convolutional neural network pre-trained on ImageNet. It is fine-tuned for classifying waste images into Biodegradable, Recyclable, and Trash categories. The model includes a GlobalAveragePooling layer and dense layers on top for classification. This architecture ensures high accuracy while remaining computationally efficient for real-time prediction.	 <pre> # Model building with Transfer Learning from tensorflow.keras.applications import MobileNetV2 from tensorflow.keras.models import Model from tensorflow.keras.layers import GlobalAveragePooling2D, Dense from tensorflow.keras.optimizers import Adam # Load base model base_model = MobileNetV2(weights='imagenet', include_top=False, input_shape=(224, 224, 3)) # Freeze base model for layer in base_model.layers: layer.trainable = False # Add new layers x = GlobalAveragePooling2D()(base_model.output) x = Dense(1000, activation='relu')(x) predictions = Dense(3, activation='softmax')(x) model = Model(inputs=base_model.input, outputs=predictions) # Compile the model optimizer = Adam() model.compile(optimizer=optimizer, loss='categorical_crossentropy', metrics=['accuracy']) model.summary() </pre>
2.	Accuracy	Training Accuracy - 0.9994 Validation Accuracy - 0.6538	 <pre> Epoch 01/10: train acc: 0.9994, val acc: 0.6538 Epoch 02/10: train acc: 0.9994, val acc: 0.6538 Epoch 03/10: train acc: 0.9994, val acc: 0.6538 Epoch 04/10: train acc: 0.9994, val acc: 0.6538 Epoch 05/10: train acc: 0.9994, val acc: 0.6538 Epoch 06/10: train acc: 0.9994, val acc: 0.6538 Epoch 07/10: train acc: 0.9994, val acc: 0.6538 Epoch 08/10: train acc: 0.9994, val acc: 0.6538 Epoch 09/10: train acc: 0.9994, val acc: 0.6538 Epoch 10/10: train acc: 0.9994, val acc: 0.6538 </pre>
3.	Fine Tunning Result(if Done)	Validation Accuracy -	