

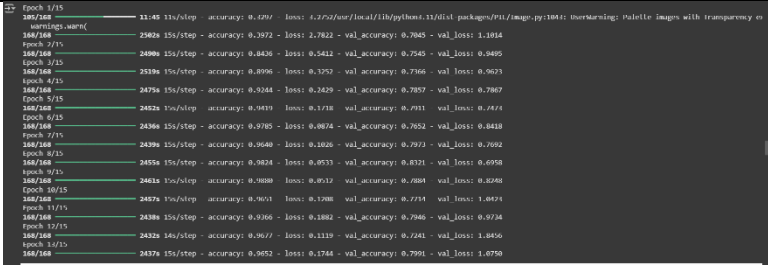
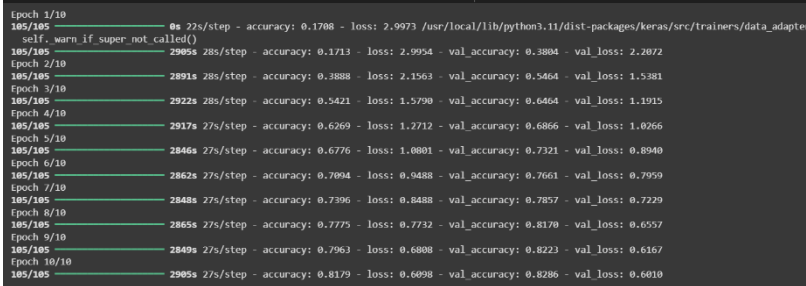
Project Development Phase
Model Performance Test

Date	27 June 2025
Team ID	LTVIP2025TMID41476
Project Name	Smart Sorting:Transfer Learning for Identifying fruits and vegetables
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	-	<div><div>↩️ Model: "functional"</div><table><tr><th>Layer (type)</th><th>Output Shape</th><th>Param #</th></tr><tr><td>input_layer (InputLayer)</td><td>(None, 224, 224, 3)</td><td>0</td></tr><tr><td>block1_conv1 (Conv2D)</td><td>(None, 224, 224, 64)</td><td>1,792</td></tr><tr><td>block1_conv2 (Conv2D)</td><td>(None, 224, 224, 64)</td><td>36,928</td></tr><tr><td>block1_pool (MaxPooling2D)</td><td>(None, 112, 112, 64)</td><td>0</td></tr><tr><td>block2_conv1 (Conv2D)</td><td>(None, 112, 112, 128)</td><td>73,856</td></tr><tr><td>block2_conv2 (Conv2D)</td><td>(None, 112, 112, 128)</td><td>147,504</td></tr><tr><td>block2_pool (MaxPooling2D)</td><td>(None, 56, 56, 128)</td><td>0</td></tr><tr><td>block3_conv1 (Conv2D)</td><td>(None, 56, 56, 256)</td><td>295,168</td></tr><tr><td>block3_conv2 (Conv2D)</td><td>(None, 56, 56, 256)</td><td>500,000</td></tr><tr><td>block3_conv3 (Conv2D)</td><td>(None, 56, 56, 256)</td><td>500,000</td></tr><tr><td>block3_pool (MaxPooling2D)</td><td>(None, 28, 28, 256)</td><td>0</td></tr><tr><td>block4_conv1 (Conv2D)</td><td>(None, 28, 28, 512)</td><td>1,180,160</td></tr><tr><td>block4_conv2 (Conv2D)</td><td>(None, 28, 28, 512)</td><td>2,359,808</td></tr><tr><td>block4_conv3 (Conv2D)</td><td>(None, 28, 28, 512)</td><td>2,359,808</td></tr><tr><td>block4_pool (MaxPooling2D)</td><td>(None, 14, 14, 512)</td><td>0</td></tr><tr><td>block5_conv1 (Conv2D)</td><td>(None, 14, 14, 512)</td><td>2,359,808</td></tr><tr><td>block5_conv2 (Conv2D)</td><td>(None, 14, 14, 512)</td><td>2,359,808</td></tr><tr><td>block5_conv3 (Conv2D)</td><td>(None, 14, 14, 512)</td><td>2,359,808</td></tr><tr><td>block5_pool (MaxPooling2D)</td><td>(None, 7, 7, 512)</td><td>0</td></tr><tr><td>flatten (Flatten)</td><td>(None, 25088)</td><td>0</td></tr><tr><td>dense (Dense)</td><td>(None, 20)</td><td>702,492</td></tr></table><div>Total params: 15,417,184 (58.81 MB) Trainable params: 702,492 (2.68 MB) Non-trainable params: 14,714,688 (56.13 MB)</div></div>	Layer (type)	Output Shape	Param #	input_layer (InputLayer)	(None, 224, 224, 3)	0	block1_conv1 (Conv2D)	(None, 224, 224, 64)	1,792	block1_conv2 (Conv2D)	(None, 224, 224, 64)	36,928	block1_pool (MaxPooling2D)	(None, 112, 112, 64)	0	block2_conv1 (Conv2D)	(None, 112, 112, 128)	73,856	block2_conv2 (Conv2D)	(None, 112, 112, 128)	147,504	block2_pool (MaxPooling2D)	(None, 56, 56, 128)	0	block3_conv1 (Conv2D)	(None, 56, 56, 256)	295,168	block3_conv2 (Conv2D)	(None, 56, 56, 256)	500,000	block3_conv3 (Conv2D)	(None, 56, 56, 256)	500,000	block3_pool (MaxPooling2D)	(None, 28, 28, 256)	0	block4_conv1 (Conv2D)	(None, 28, 28, 512)	1,180,160	block4_conv2 (Conv2D)	(None, 28, 28, 512)	2,359,808	block4_conv3 (Conv2D)	(None, 28, 28, 512)	2,359,808	block4_pool (MaxPooling2D)	(None, 14, 14, 512)	0	block5_conv1 (Conv2D)	(None, 14, 14, 512)	2,359,808	block5_conv2 (Conv2D)	(None, 14, 14, 512)	2,359,808	block5_conv3 (Conv2D)	(None, 14, 14, 512)	2,359,808	block5_pool (MaxPooling2D)	(None, 7, 7, 512)	0	flatten (Flatten)	(None, 25088)	0	dense (Dense)	(None, 20)	702,492
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2.	Accuracy	Training Accuracy – 84 Validation Accuracy -80	 <pre>Epoch 1/10 105/105 --- 11:40 15s/step - accuracy: 0.4297 - loss: 1.2724 /usr/local/lib/python3.11/dist-packages/keras/src/trainers/data_adapter_ warnings.warn(168/168 --- 2362s 15s/step - accuracy: 0.3972 - loss: 2.7822 - val_accuracy: 0.7045 - val_loss: 1.1014 Epoch 2/10 168/168 --- 2406s 15s/step - accuracy: 0.4836 - loss: 0.5412 - val_accuracy: 0.7545 - val_loss: 0.9495 Epoch 3/10 168/168 --- 2439s 15s/step - accuracy: 0.4996 - loss: 0.3752 - val_accuracy: 0.7366 - val_loss: 0.9073 Epoch 4/10 168/168 --- 2475s 15s/step - accuracy: 0.5244 - loss: 0.2429 - val_accuracy: 0.7857 - val_loss: 0.7867 Epoch 5/10 168/168 --- 2482s 15s/step - accuracy: 0.5819 - loss: 0.1718 - val_accuracy: 0.7931 - val_loss: 0.7474 Epoch 6/10 168/168 --- 2496s 15s/step - accuracy: 0.4785 - loss: 0.8074 - val_accuracy: 0.7052 - val_loss: 0.8418 Epoch 7/10 168/168 --- 2499s 15s/step - accuracy: 0.3640 - loss: 0.1828 - val_accuracy: 0.7973 - val_loss: 0.7052 Epoch 8/10 168/168 --- 2455s 15s/step - accuracy: 0.3824 - loss: 0.4533 - val_accuracy: 0.8321 - val_loss: 0.6958 Epoch 9/10 168/168 --- 2461s 15s/step - accuracy: 0.3888 - loss: 0.4532 - val_accuracy: 0.7884 - val_loss: 0.8248 Epoch 10/10 168/168 --- 2457s 15s/step - accuracy: 0.3601 - loss: 0.1708 - val_accuracy: 0.7714 - val_loss: 1.0474 Epoch 11/10 168/168 --- 2438s 15s/step - accuracy: 0.9366 - loss: 0.1882 - val_accuracy: 0.7946 - val_loss: 0.9234 Epoch 12/10 168/168 --- 2432s 14s/step - accuracy: 0.3677 - loss: 0.1119 - val_accuracy: 0.7241 - val_loss: 1.8456 Epoch 13/10 168/168 --- 2437s 15s/step - accuracy: 0.3652 - loss: 0.1744 - val_accuracy: 0.7991 - val_loss: 1.0750</pre>
3.	Fine Tunning Result(if Done)	Validation Accuracy -83	 <pre>Epoch 1/10 105/105 --- 0s 22s/step - accuracy: 0.1788 - loss: 2.9973 /usr/local/lib/python3.11/dist-packages/keras/src/trainers/data_adapter_ self.warn if super_not_called() 105/105 --- 2905s 28s/step - accuracy: 0.1713 - loss: 2.9954 - val_accuracy: 0.3804 - val_loss: 2.2872 Epoch 2/10 105/105 --- 2891s 28s/step - accuracy: 0.3888 - loss: 2.1563 - val_accuracy: 0.5464 - val_loss: 1.5381 Epoch 3/10 105/105 --- 2922s 28s/step - accuracy: 0.5421 - loss: 1.5790 - val_accuracy: 0.6464 - val_loss: 1.1915 Epoch 4/10 105/105 --- 2917s 27s/step - accuracy: 0.6269 - loss: 1.2712 - val_accuracy: 0.6866 - val_loss: 1.0266 Epoch 5/10 105/105 --- 2846s 27s/step - accuracy: 0.6776 - loss: 1.0801 - val_accuracy: 0.7321 - val_loss: 0.8940 Epoch 6/10 105/105 --- 2862s 27s/step - accuracy: 0.7094 - loss: 0.9488 - val_accuracy: 0.7661 - val_loss: 0.7959 Epoch 7/10 105/105 --- 2848s 27s/step - accuracy: 0.7396 - loss: 0.8488 - val_accuracy: 0.7857 - val_loss: 0.7229 Epoch 8/10 105/105 --- 2865s 27s/step - accuracy: 0.7775 - loss: 0.7732 - val_accuracy: 0.8178 - val_loss: 0.6557 Epoch 9/10 105/105 --- 2849s 27s/step - accuracy: 0.7963 - loss: 0.6808 - val_accuracy: 0.8223 - val_loss: 0.6167 Epoch 10/10 105/105 --- 2905s 27s/step - accuracy: 0.8179 - loss: 0.6098 - val_accuracy: 0.8286 - val_loss: 0.6010</pre>