

## Project Development Phase Model Performance Test

Date	10 November 2023
Team ID	Team-591551
Project Name	ASL Alphabet Image Recognition
Maximum Marks	10 Marks

### Model Performance Testing:

S.No.	Parameter	Values
1.	Model Summary	-
2.	Accuracy	Training Accuracy - 0.9537 Validation Accuracy - 0.9910

### Training and Validation Accuracy Screenshot

```
Epoch 1/10
889/889 [=====] - 1133s 1s/step - loss: 1.0560 - accuracy: 0.6656 - val_loss: 0.2360 - val_accuracy:
0.9277
Epoch 2/10
889/889 [=====] - 423s 475ms/step - loss: 0.3766 - accuracy: 0.8711 - val_loss: 0.1151 - val_accuracy:
0.9684
Epoch 3/10
889/889 [=====] - 918s 1s/step - loss: 0.2800 - accuracy: 0.9056 - val_loss: 0.0920 - val_accuracy: 0.
9734
Epoch 4/10
889/889 [=====] - 768s 864ms/step - loss: 0.2311 - accuracy: 0.9211 - val_loss: 0.0656 - val_accuracy:
0.9815
Epoch 5/10
889/889 [=====] - 632s 711ms/step - loss: 0.2096 - accuracy: 0.9289 - val_loss: 0.0568 - val_accuracy:
0.9851
Epoch 6/10
889/889 [=====] - 955s 1s/step - loss: 0.1822 - accuracy: 0.9373 - val_loss: 0.0602 - val_accuracy: 0.
9795
Epoch 7/10
889/889 [=====] - 411s 462ms/step - loss: 0.1716 - accuracy: 0.9414 - val_loss: 0.0412 - val_accuracy:
0.9881
Epoch 8/10
889/889 [=====] - 404s 455ms/step - loss: 0.1572 - accuracy: 0.9465 - val_loss: 0.0393 - val_accuracy:
0.9891
Epoch 9/10
889/889 [=====] - 424s 477ms/step - loss: 0.1583 - accuracy: 0.9472 - val_loss: 0.0432 - val_accuracy:
0.9868
Epoch 10/10
889/889 [=====] - 419s 471ms/step - loss: 0.1380 - accuracy: 0.9537 - val_loss: 0.0310 - val_accuracy:
0.9910
```

## Model Summary Screenshot

```
model.summary()
```

Model: "model"

Layer (type)	Output Shape	Param #
input_1 (InputLayer)	[(None, 64, 64, 3)]	0
block1_conv1 (Conv2D)	(None, 64, 64, 64)	1792
block1_conv2 (Conv2D)	(None, 64, 64, 64)	36928
block1_pool (MaxPooling2D)	(None, 32, 32, 64)	0
block2_conv1 (Conv2D)	(None, 32, 32, 128)	73856
block2_conv2 (Conv2D)	(None, 32, 32, 128)	147584
block2_pool (MaxPooling2D)	(None, 16, 16, 128)	0
block3_conv1 (Conv2D)	(None, 16, 16, 256)	295168
block3_conv2 (Conv2D)	(None, 16, 16, 256)	590880
block3_conv3 (Conv2D)	(None, 16, 16, 256)	590880
block3_pool (MaxPooling2D)	(None, 8, 8, 256)	0
block4_conv1 (Conv2D)	(None, 8, 8, 512)	1180160
block4_conv2 (Conv2D)	(None, 8, 8, 512)	2359808
block4_conv3 (Conv2D)	(None, 8, 8, 512)	2359808
block4_pool (MaxPooling2D)	(None, 4, 4, 512)	0
block5_conv1 (Conv2D)	(None, 4, 4, 512)	2359808
block5_conv2 (Conv2D)	(None, 4, 4, 512)	2359808
block5_conv3 (Conv2D)	(None, 4, 4, 512)	2359808
block5_pool (MaxPooling2D)	(None, 2, 2, 512)	0
flatten (Flatten)	(None, 2048)	0
dense (Dense)	(None, 512)	1049088
dropout (Dropout)	(None, 512)	0
dense_1 (Dense)	(None, 512)	262656
dropout_1 (Dropout)	(None, 512)	0
dense_2 (Dense)	(None, 29)	14877
Total params: 16041309 (61.19 MB)		
Trainable params: 1326621 (5.06 MB)		
Non-trainable params: 14714688 (56.13 MB)		