

Project Development Phase

Model Performance Test

Date	18 November 2022
Team ID	PNT2022TMID27674
Project Name	Real-Time Communication Using AI for Specially Abled
Maximum Marks	10 Marks

Model Performance Testing:

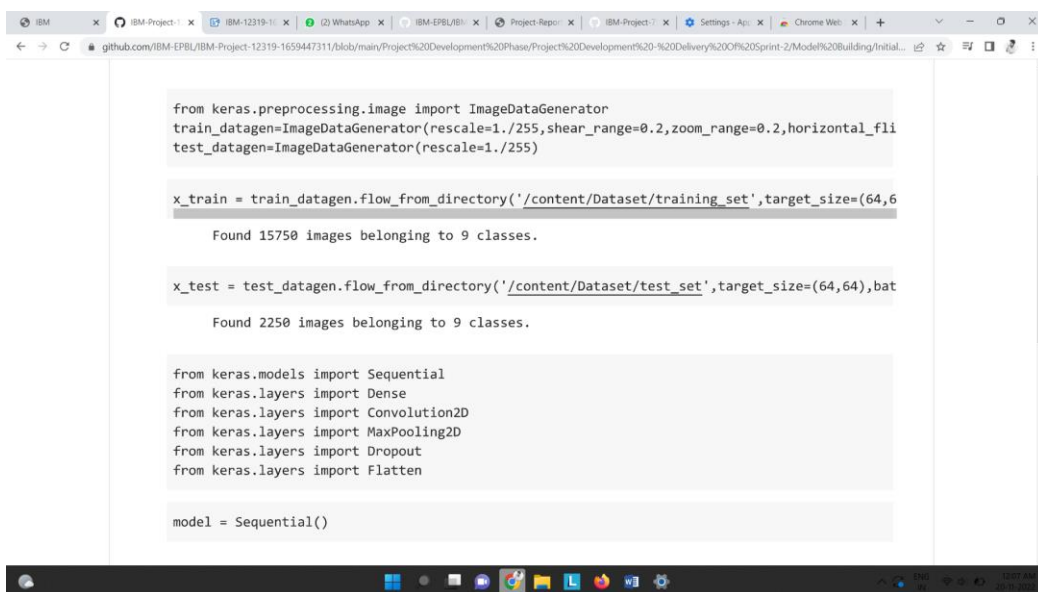
The below table consists of information in model performance by the project team,

S.no	Parameter	Values
1.	Model Summary	Total amount of Test data imported – 2250 images in 9 classes. Total amount of Training data – 15750 images in 9 classes. Length of the Training set – 18 Length of the Test set – 3
2.	Accuracy	Model Accuracy - 0.7874015748031497 Training Accuracy – 0.9991 Validation Accuracy – 0.9760

Screenshots:

The Screenshots below are for the Model Performance Testing table, **Model**

Screenshot:



```
from keras.preprocessing.image import ImageDataGenerator
train_datagen=ImageDataGenerator(rescale=1./255, shear_range=0.2, zoom_range=0.2, horizontal_fli
test_datagen=ImageDataGenerator(rescale=1./255)

x_train = train_datagen.flow_from_directory('/content/Dataset/training_set', target_size=(64,6
Found 15750 images belonging to 9 classes.

x_test = test_datagen.flow_from_directory('/content/Dataset/test_set', target_size=(64,64), bat
Found 2250 images belonging to 9 classes.

from keras.models import Sequential
from keras.layers import Dense
from keras.layers import Convolution2D
from keras.layers import MaxPooling2D
from keras.layers import Dropout
from keras.layers import Flatten

model = Sequential()
```

Accuracy Screenshot:

```
model.compile(loss='categorical_crossentropy', optimizer = 'adam', metrics = ['accuracy'])

model.fit_generator(x_train, steps_per_epoch=24, epochs=10, validation_data = x_test, validation
#steps_per_epoch = no. of train images//batch size

/usr/local/lib/python3.7/dist-packages/ipykernel_launcher.py:1: UserWarning: 'Model.fit
'''Entry point for launching an IPython kernel.
Epoch 1/10
24/24 [=====] - 96s 4s/step - loss: 1.0716 - accuracy: 0.7176
Epoch 2/10
24/24 [=====] - 82s 3s/step - loss: 0.2010 - accuracy: 0.9400

Epoch 3/10
24/24 [=====] - 94s 4s/step - loss: 0.0867 - accuracy: 0.9751
Epoch 4/10
24/24 [=====] - 85s 4s/step - loss: 0.0403 - accuracy: 0.9893
Epoch 5/10
24/24 [=====] - 82s 3s/step - loss: 0.0289 - accuracy: 0.9915
Epoch 6/10
24/24 [=====] - 82s 3s/step - loss: 0.0209 - accuracy: 0.9949
Epoch 7/10
24/24 [=====] - 83s 3s/step - loss: 0.0137 - accuracy: 0.9957
Epoch 8/10
24/24 [=====] - 81s 3s/step - loss: 0.0090 - accuracy: 0.9979
Epoch 9/10
24/24 [=====] - 82s 3s/step - loss: 0.0153 - accuracy: 0.9957
Epoch 10/10
24/24 [=====] - 81s 3s/step - loss: 0.0086 - accuracy: 0.9986
<keras.callbacks.History at 0x7fc0ea424290>

model.save('as1png1.h5')
```