IBM Project Name: Real-Time Communication System Powered by AI for Specially Abled

TEAM ID: PNT2022TMID30422

```
import numpy as np

from tensorflow.keras.models import load_model

from tensorflow.keras.preprocessing import image

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()

model.add(Convolution2D(32,(3,3),activation="relu",input_shape=(64,64,3)))

model.add(MaxPooling2D(pool_size=(2,2)))

model.add(Flatten())

model.add(Dense(200,activation='relu'))

model.add(Dense(9,activation="softmax"))

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

NameError Traceback (most recent call last)

in

---> 1 len(x_train)

NameError: name 'x_train' is not defined

len(x_test)

model.fit(x_train,epochs=10,validation_data=x_test,steps_per_epoch=len(x_train)//10,validation_steps=len(x_test))

model.save("aslpng.h5")

Testing the model

from keras.models import load_model

import numpy as np

import cv2

from tensorflow.keras.models import load_model

from tensorflow.keras.preprocessing import image

import numpy as np

model=load_model('asl_model_84_54.h5')

img=image.load_img(r'E:\Projects\SmartBridge\ModelGen\Dataset\test_set\D\2.png',

target_size=(64,64))

model=load_model("aslpng.h5")

img = image.load_img(r"/content/drive/MyDrive/IBM project/test_set/D/10.png",target_size=(64,64))

img

x = image.img_to_array(img)

x

x.shape

x = np.expand_dims(x,axis=0)

x.shape

pred = model.predict(x)

```
pred class_name=["A","B","C","D","E","F","G","H","I"]

pred_id = pred.argmax(axis=1)[0]

pred_id

print("the alphabet is ",str(class_name[pred_id]))
```