

Team id	PNT2022TMID51228
Project Name	REAL TIME COMMUNICATION SYSTEM FOR SPECIALLY AIDED PEOPLES
Date and sprint no	3-11-2022 AND 3

## Test the model

### 1)import packages and load the model

The screenshot shows a Jupyter Notebook running on a local host. The notebook contains the following code cells:

```

Out[17]: <keras.callbacks.History at 0x1f743a90280>

In [18]: model.save('as1png1.h5')

In [3]: from keras.models import load_model
import numpy as np
import cv2

In [4]: model=load_model('as1png1.h5')

In [5]: img1 = np.array([np.array([200, 200]), np.array([200, 200])])
img2 = np.array([np.array([200, 200]), np.array([0, 0])])
img3 = np.array([np.array([200, 0]), np.array([200, 0])])

kernel_horizontal = np.array([np.array([2, 2]), np.array([-2, -2])])
print(kernel_horizontal, 'is a kernel for detecting horizontal edges')

kernel_vertical = np.array([np.array([2, -2]), np.array([2, -2])])
print(kernel_vertical, 'is a kernel for detecting vertical edges')

[[ 2  2]
 [-2 -2]] is a kernel for detecting horizontal edges
[[ 2 -2]
 [ 2 -2]] is a kernel for detecting vertical edges

```

### 2)Pre process and predict the image

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In [18]:

```
from tensorflow.keras.models import load_model
import numpy as np
import cv2
from tensorflow.keras.preprocessing import image
```

In [19]:

```
img=image.load_img('C:\\Users\\ELCOT\\Downloads\\Dataset\\training_set\\A\\1.png',target_size=(400,500))
img
```

Out[19]:



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kernel\_vertical))

img3



Horizontal edge confidence score: 0  
Vertical edge confidence score: 800

In [15]:

```
print("Len x-train : ", len(xtrain))
print("Len x-test : ", len(xtest))
```

Len x-train : 158  
Len x-test : 23


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In [26]: 

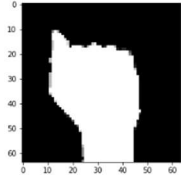
```
In [26]: from skimage.transform import resize
def detect(frame):
    img=resize(frame,(64,64,1))
    img=np.expand_dims(img,axis=0)
    if(np.max(img)>1):
        prediction=model.predict(img)
        print(prediction)
        prediction=model.predict_classes(img)
        print(prediction)
```

In [27]: 

```
In [27]: arr= image.img_to_array(img)
import cv2
import matplotlib.pyplot as plt
```

In [30]: 

```
In [30]: frame=cv2.imread('C:\\Users\\ELCOT\\Downloads\\Dataset\\training_set\\A\\10.png')
data=detect(frame)
plt.imshow(frame)
cv2.waitKey(0)
cv2.destroyAllWindows()
```



0 10 20 30 40 50 60

0 10 20 30 40 50 60

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