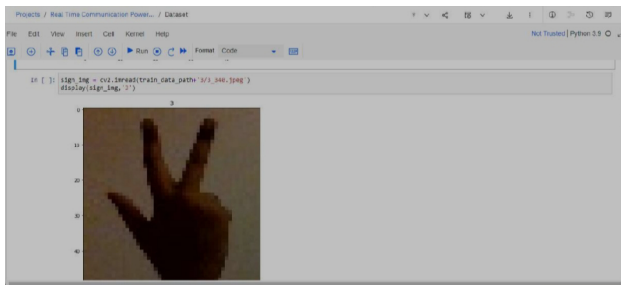
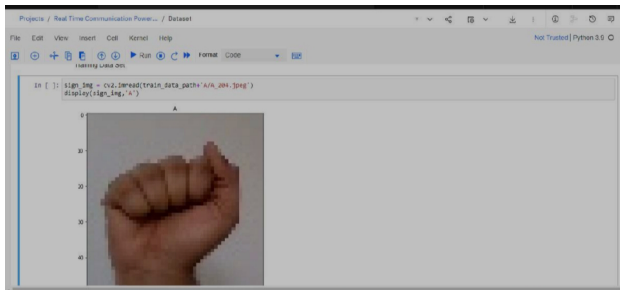


```
Project / Real Time Communication Power... / Dataset
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In [ ]: #####PROTOTYPING LIBRARIES
In [ ]: import os
import cv2
import numpy as np
import matplotlib.pyplot as plt
from keras.preprocessing.image import ImageDataGenerator

Define DATA FILES
In [ ]: def rename_imgs(file_name):
    folder_path = "test_dataset/" + file_name
    num = 0
    for file in os.listdir(folder_path):
        # if num%10 == 0:
        #     print(f Renamed {num} Files...")
        # os.rename(folder_path + file, folder_path + file_name + str(num) + ".jpg")
        num += 1
In [ ]: fn = "test"
rename_imgs(fn)
```

```
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In [ ]: for file in os.listdir(folder_path):
    # if num%10 == 0:
    #     print(f Renamed {num} Files...")
    # os.rename(folder_path + file, folder_path + file_name + str(num) + ".jpg")
    num += 1
In [ ]: fn = "test"
rename_imgs(fn)
In [ ]: file_names = "B113D5780 + ABCDEFHIJKLMNOPQRSTUVWXYZ"
for fn in file_names:
    rename_imgs(fn)
SAMPLE IMAGES FROM DATASET
In [ ]: train_data_path = "train_dataset/"
test_data_path = "test_dataset/"
In [ ]: def display(img,sign=None):
    img = cv2.cvtColor(img,cv2.COLOR_BGR2RGB)
    fig = plt.figure(figsize=(7,7))
    ax = fig.add_subplot(111)
    plt.imshow(img)
    ax.imshow(img)
```



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Train Data Generator
In [ ]: train_data_gen = image_gen_flow_from_directory(train_data_path,
    target_size=(224,224),
    batch_size=32,
    shuffle=True,
    class_mode="binary",
    subset="training")
Found 45625 Images belonging to 37 classes.
Validation Data Generator
In [ ]: validation_data_gen = image_gen_flow_from_directory(train_data_path,
    target_size=(224,224),
    batch_size=32,
    class_mode="binary",
    subset="validation")
Found 11875 Images belonging to 37 classes.
Test Data Generator
In [ ]: test_data_gen = image_gen_flow_from_directory(test_data_path,
```