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Image Preprocessing

Applying ImageDataGenerator Functionality To Train And Test Set

In []:

```
from tensorflow.keras.preprocessing.image import ImageDataGenerator
```

In []:

```
# Testing Datagen test_datagen =  
ImageDataGenerator(rescale=1/255)  
# Training Datagen train_datagen  
=  
ImageDataGenerator(rescale=1/255, zoom_range=0.2, horizontal_flip=True, vertical_flip=False)
```

In []:

```
# Training Dataset  
x_train=train_datagen.flow_from_directory(r'/content/drive/MyDrive/Dataset/training_set', target_size=(64, 64), class_mode='categorical', batch_size=900)  
# Testing Dataset  
x_test=test_datagen.flow_from_directory(r'/content/drive/MyDrive/Dataset/test_set', target_size=(64, 64), class_mode='categorical', batch_size=900)
```

In []:

```
print("Len x-train : ", len(x_train)) print("Len  
x-test : ", len(x_test))
```

In []:

```
# The Class Indices in Training Dataset x_train.class_indices
```

In []:

```
traindf=pd.read_csv('/content/drive/images_and_labels.txt', dtype=str, sep='\s')  
traindf.columns = ['image', 'label', 'none1', 'none2', 'none3']  
traindf.drop(['none1', 'none2', 'none3'], axis=1)
```

In []:

```
datagen=ImageDataGenerator(rescale=1./255., validation_split=0.25)
```

In []:

```
train_generator=datagen.flow_from_dataframe(  
    dataframe=traindf,  
    directory="/content/drive/",  
    x_col="image",  
    y_col="label",  
    subset="training",  
    batch_size=32, seed=42,
```

```
    shuffle=True,  
    class_mode="categorical",  
    target_size=(150,150)  
)
```

In []:

```
validation_generator=datagen.flow_from_dataframe  
(    dataframe=traindf,  
    directory="/content/drive/",  
    x_col="image",  
    y_col="label",  
    subset="validation",  
    batch_size=32,    seed=42,  
    shuffle=True,  
    class_mode="categorical",  
    target_size=(150,150)  
)
```