

Apply Image Generator functionality to trainset & Testset

TEAM NO	PNT2022TMID51618
PROJECT NAME	Project – Natural Disaster Intensity Analysis and Classification Using Artificial Intelligence

In [1]:

```
#extract zip file
!unzip '/content/dataset.zip'

unzip: cannot find or open /content/dataset.zip, /content/dataset.zip.zip or /content/dataset.zip.ZIP.

Archive: /content/dataset.zip inflating: dataset/readme.txt
creating: dataset/test_set/ creating: dataset/test_set/Cyclone/ inflating: dataset/test_set/Cyclone/867.jpg
inflating: dataset/test_set/Cyclone/868.jpg
inflating: dataset/test_set/Cyclone/869.jpg
inflating: dataset/test_set/Cyclone/870.jpg
inflating: dataset/test_set/Cyclone/871.jpg
inflating: dataset/test_set/Cyclone/872.jpg
inflating: dataset/test_set/Cyclone/873.jpg
inflating: dataset/test_set/Cyclone/874.jpg
inflating: dataset/test_set/Cyclone/875.jpg
inflating: dataset/test_set/Cyclone/876.jpg
inflating: dataset/test_set/Cyclone/877.jpg
inflating: dataset/test_set/Cyclone/878.jpg
inflating: dataset/test_set/Cyclone/879.jpg
inflating: dataset/test_set/Cyclone/880.jpg

creating: dataset/test_set/Earthquake/ inflating: dataset/test_set/Earthquake/1321.jpg
inflating: dataset/test_set/Earthquake/1322.jpg
inflating: dataset/test_set/Earthquake/1323.jpg
inflating: dataset/test_set/Earthquake/1324.jpg
inflating: dataset/test_set/Earthquake/1325.jpg
inflating: dataset/test_set/Earthquake/1326.jpg
inflating: dataset/test_set/Earthquake/1327.jpg
inflating: dataset/test_set/Earthquake/1328.jpg
inflating: dataset/test_set/Earthquake/1329.jpg
inflating: dataset/test_set/Earthquake/1330.jpg
inflating: dataset/test_set/Earthquake/1331.jpg
inflating: dataset/test_set/Earthquake/1332.jpg
inflating: dataset/test_set/Earthquake/1333.jpg
inflating: dataset/test_set/Earthquake/1334.jpg
inflating: dataset/test_set/Earthquake/1335.jpg
inflating: dataset/test_set/Earthquake/1336.jpg
inflating: dataset/test_set/Earthquake/1337.jpg
inflating: dataset/test_set/Earthquake/1338.jpg
inflating: dataset/test_set/Earthquake/1339.jpg
inflating: dataset/test_set/Earthquake/1340.jpg
inflating: dataset/test_set/Earthquake/1341.jpg
```

```
creating: dataset/test_set/Flood/ inflating: dataset/test_set/Flood/1000.jpg
inflating: dataset/test_set/Flood/1001.jpg
inflating: dataset/test_set/Flood/1002.jpg
inflating: dataset/test_set/Flood/1003.jpg
inflating: dataset/test_set/Flood/1004.jpg
inflating: dataset/test_set/Flood/1005.jpg
inflating: dataset/test_set/Flood/1006.jpg
inflating: dataset/test_set/Flood/1007.jpg
inflating: dataset/test_set/Flood/1008.jpg
inflating: dataset/test_set/Flood/1009.jpg
inflating: dataset/test_set/Flood/1010.jpg
inflating: dataset/test_set/Flood/1011.jpg
inflating: dataset/test_set/Flood/1012.jpg
inflating: dataset/test_set/Flood/1013.jpg
inflating: dataset/test_set/Flood/1014.jpg
inflating: dataset/test_set/Flood/1015.jpg
inflating: dataset/test_set/Flood/1016.jpg
inflating: dataset/test_set/Flood/1017.jpg
inflating: dataset/test_set/Flood/1018.jpg
inflating: dataset/test_set/Flood/1019.jpg
```

```
creating: dataset/test_set/Wildfire/ inflating: dataset/test_set/Wildfire/1035.jpg
inflating: dataset/test_set/Wildfire/1036.jpg
inflating: dataset/test_set/Wildfire/1037.jpg
inflating: dataset/test_set/Wildfire/1038.jpg
inflating: dataset/test_set/Wildfire/1039.jpg
inflating: dataset/test_set/Wildfire/1040.jpg
inflating: dataset/test_set/Wildfire/1041.jpg
inflating: dataset/test_set/Wildfire/1042.jpg
inflating: dataset/test_set/Wildfire/1043.jpg
inflating: dataset/test_set/Wildfire/1044.jpg
inflating: dataset/test_set/Wildfire/1045.jpg
inflating: dataset/test_set/Wildfire/1046.jpg
inflating: dataset/test_set/Wildfire/1047.jpg
inflating: dataset/test_set/Wildfire/1048.jpg
inflating: dataset/test_set/Wildfire/1049.jpg
inflating: dataset/test_set/Wildfire/1050.jpg
inflating: dataset/test_set/Wildfire/1051.jpg
inflating: dataset/test_set/Wildfire/1052.jpg
inflating: dataset/test_set/Wildfire/1053.jpg
inflating: dataset/test_set/Wildfire/1054.jpg
inflating: dataset/test_set/Wildfire/1055.jpg
inflating: dataset/test_set/Wildfire/1056.jpg
inflating: dataset/test_set/Wildfire/1057.jpg
inflating: dataset/test_set/Wildfire/1058.jpg
inflating: dataset/test_set/Wildfire/1059.jpg
inflating: dataset/test_set/Wildfire/1060.jpg
inflating: dataset/test_set/Wildfire/1061.jpg
```

```
In [ ]: #importing image data generator Library
```

```
In [ ]: from keras.preprocessing.image import ImageDataGenerator
```

Image Data Augmentation

```
In [ ]: #Configuring image Data Generator Class

#Setting Parameter for Image Augmentation for training data

train_datagen = ImageDataGenerator(rescale = 1./255, shear_range = 0.2, zoom_range = 0.2, horizontal_flip = True)

#Image Data Augmentation for testing data

test_datagen = ImageDataGenerator(rescale = 1./255)
```

Apply ImageDataGenerator Functionality To Trainset And Testset

```
In [ ]: #Performing data augmentation to train data

x_train = train_datagen.flow_from_directory('/content/dataset/train_set', target_size = (64,64), batch_size = 5, color_mode = 'rgb', class_mode = 'cat')

#performing data augmentation to test data

x_test = test_datagen.flow_from_directory('/content/dataset/test_set', target_size = (64,64), batch_size = 5, color_mode = 'rgb', class_mode = 'catego
```

Found 742 images belonging to 4 classes. Found 198 images belonging to 4 classes.