

# EARLY DETECTION OF FOREST FIRE USING DEEP LEARNING

## IMAGE PRE-PROCESSING

### APPLYING ImageDataGenerator to train and test dataset

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Project Name	Project-Early detection of forest fire using deep learning

The ImageDataGenerator class has three methods,

1. `flow ( )`,

2. `flow_from_directory ( )`

3. `flow_from_dataframe ( )` to read the images from a big numpy array and folders containing images.

`flow_from_directory ( )` expects at least one directory under the given directory path.

### APPLYING ImageDataGenerator to train dataset:

`flow_from_directory ( )` method for Train folder.

```
Defining the Parameters

[11] train_datagen=ImageDataGenerator(rescale=1./255, shear_range=0.2, rotation_range=180, zoom_range=0.2, horizontal_flip=True)
     test_datagen=ImageDataGenerator(rescale=1./255)

<keras.preprocessing.image.ImageDataGenerator at 0x7fb7448ac110>

Applying ImageDataGenerator functionality to train dataset

[10] from google.colab import drive
     drive.mount('/content/drive')

Drive already mounted at /content/drive; to attempt to forcibly remount, call drive.mount("/content/drive", force_remount=True).

[17] x_train=train_datagen.flow_from_directory('/content/drive/MyDrive/IBM PROJECT/dataset/DATA SET/archive/Dataset/Dataset/train_set', target_size=(128,128), batch_size=32, class_mode='binary')

Found 436 images belonging to 2 classes.
```

### APPLYING ImageDataGenerator to test dataset:

Applying the `flow_from_directory ( )` method for test folder.

```
Applying ImageDataGenerator functionality to test dataset

x_test=test_datagen.flow_from_directory('/content/drive/MyDrive/IBM PROJECT/dataset/DATA SET/archive/Dataset/Dataset/test_set', target_size=(128,128), batch_size=32, class_mode='binary')

Found 121 images belonging to 2 classes.
```