

SPRINT – 1

DATA COLLECTION:

```
Documents/PROJECT/ x forest fire - Jupyter Notebook x What is problem in this python . x +
localhost:8888/notebooks/Documents/PROJECT/forest fire.ipynb
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jupyter forest fire Last Checkpoint: a few seconds ago (autosaved)
File Edit View Insert Cell Kernel Widgets Help Not Trusted Python 3 (ipykernel)
In [8]: import keras
        from keras.preprocessing.image import ImageDataGenerator

In [14]: from keras.models import load_model
        from keras.layers import Lambda
        import tensorflow as tf

In [22]: tf.keras.preprocessing.image_dataset_from_directory(
        directory="C:\\Users\\Akash\\Downloads\\Dataset",
        labels="inferred",
        label_mode="int",
        class_names=None,
        color_mode="rgb",
        batch_size=32,
        image_size=(256, 256),
        shuffle=True,
        seed=None,
        validation_split=None,
        subset=None,
        interpolation="bilinear",
        follow_links=False,
        crop_to_aspect_ratio=False,
        )


Found 558 files belonging to 1 classes.

Out[22]: <BatchDataset element_spec=(TensorSpec(shape=(None, 256, 256, 3), dtype=tf.float32, name=None), TensorSpec(shape=(None,), dtype
=tf.int32, name=None))>
```

IMAGE PREPROCESSING:

```
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In [58]: tf.keras.preprocessing.image.load_img(
        path="C:\\Users\\Akash\\Downloads\\Dataset\\Dataset\\train_set\\forest\\with_fire (1).gif", grayscale=False, color_mode="rgb"
        )

Out[58]: 

In [65]: from numpy import *
        image = tf.keras.preprocessing.image.load_img("C:\\Users\\Akash\\Downloads\\Dataset\\Dataset\\train_set\\forest\\with_fire (1).gif")
        input_arr = tf.keras.preprocessing.image.img_to_array(image)
        input_arr = np.array([input_arr]) # Convert single image to a batch.
        predictions = image.predict(input_arr)
```

```
In [10]: 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)
```

```
In [21]: #: Applying ImageDataGenerator functionality to trainset.
x_train = train_datagen.flow_from_directory(r'C:\Users\Akash\Downloads\Dataset\Dataset\train_set',
                                             target_size = (128,128),
                                             batch_size = 32,
                                             class_mode= 'binary')
```

Found 436 images belonging to 2 classes.

```
In [22]: x_test = test_datagen.flow_from_directory(r'C:\Users\Akash\Downloads\Dataset\Dataset\test_set',
                                                    target_size = (128,128),
                                                    batch_size = 32,
                                                    class_mode= 'binary')
```

Found 121 images belonging to 2 classes.