

IMAGE PREPROCESSING

Date	31 October 2022
Team ID	PNT2022TMID01549
Project Name	AI-Powered Nutrition Analyzer for Fitness Enthusiasts

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```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
from sklearn.model_selection import train_test_split
from sklearn.preprocessing import LabelEncoder
from keras.models import Model
from keras.layers import LSTM, Activation, Dense, Dropout, Input, Embedding
from keras.optimizers import RMSprop
from keras.preprocessing.text import Tokenizer
from keras.preprocessing import sequence
from keras.utils import to_categorical
from keras.callbacks import EarlyStopping
%matplotlib inline
```

Import the ImageDataGenerator library

```
[8] from tensorflow.keras.preprocessing.image import ImageDataGenerator
```

Configure ImageDataGenerator class

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```
[9] train_datagen = ImageDataGenerator(rescale=1./255,
                                       zoom_range=0.2,
                                       horizontal_flip=True)
    test_datagen = ImageDataGenerator(rescale=1./255)
```

Apply ImageDataGenerator Functionality To Trainset And Testset

```
▶ xtrain = train_datagen.flow_from_directory('/content/drive/MyDrive/IBM/Dataset-PNT2022TMID01549/Dataset/TRAIN_SET',  
                                             target_size=(64,64),  
                                             class_mode='categorical',  
                                             batch_size=100)
```

Found 2656 images belonging to 5 classes.

+ Code

+ Text

```
▶ xtest= test_datagen.flow_from_directory('/content/drive/MyDrive/IBM/Dataset-PNT2022TMID01549/Dataset/TEST_SET',  
                                          target_size=(64,64),  
                                          class_mode='categorical',  
                                          batch_size=100)
```

Found 1055 images belonging to 5 classes.

