Sprint-1 Image Preprocessig

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| Date | 02 November 2022 |
| Team ID | PNT2022TMID36873 |
| Project Name | AI-powered Nutrition Analyzer for Fitness  Enthusiasts |
| Maximum Marks | 6 |

Dataset:

* In our dataset we have collected images of the five variety of fruits.
  + Apple
  + Orange
  + Pineapple
  + Watermelon
  + Banana

Image Preprocessing:

### Importing The ImageDataGenerator Library

from keras.preprocessing.image import ImageDataGenerator

### Configuring ImageDataGenerator Class

train\_datagen = ImageDataGenerator(rescale=1./255,shear\_range=0.2,zoom\_range=0.2,horizontal\_flip=True) test\_datagen=ImageDataGenerator(rescale=1./255)

### Applying Image DataGenerator Functionality To Trainset And Testset

x\_train = train\_datagen.flow\_from\_directory(r'/content/Dataset/TRAIN\_SET', target\_size=(64, 64),batch\_size=5,color\_mode='rgb',class\_mode='sparse')

x\_test = test\_datagen.flow\_from\_directory( r'/content/Dataset/TEST\_SET', target\_size=(64, 64),batch\_size=5,color\_mode='rgb',class\_mode='sparse')

# Data Collection

# Unzipping the dataset

!unzip '/content/Dataset.zip'

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# Image Preprocessing

#Importing The ImageDataGenerator Library

from keras.preprocessing.image import ImageDataGenerator

# Image Data Augmentation

#Configure ImageDataGenerator Class

train\_datagen = ImageDataGenerator(rescale=1./255,shear\_range=0.2,zoom\_range=0.2,horizonta test\_datagen=ImageDataGenerator(rescale=1./255)

# Applying Image DataGenerator Functionality To TrainsetAnd Testset

#Applying Image DataGenerator Functionality To Trainset And Testsetx\_train = train\_datagen.flow\_from\_directory(

r'/content/Dataset/TRAIN\_SET', target\_size=(64,

64),batch\_size=5,color\_mode='rgb',class\_mode='sparse') #Applying Image DataGenerator Functionality To Testset x\_test =

test\_datagen.flow\_from\_di rectory( r'/content/Dataset/TEST\_S ET',

target\_size=(64, 64),batch\_size=5,color\_mode='rgb',class\_mode='sparse')

Found 4118 images belonging to 5 classes.Found 929 images belonging to 5 classes.

#checking the number of classes print(x\_train.clas s\_indices)

{'APPLES': 0, 'BANANA': 1, 'ORANGE': 2, 'PINEAPPLE': 3, 'WATERMELON': 4}

#checking the number of classes print(x\_test.class

\_indices)

{'APPLES': 0, 'BANANA': 1, 'ORANGE': 2, 'PINEAPPLE': 3, 'WATERMELON': 4}

from collections import Counter as cc(x\_train

.labels)

Counter({0: 995, 1: 1354, 2: 1019, 3: 275, 4: 475})

[Colab HYPERLINK](https://colab.research.google.com/signup?utm_source=footer&utm_medium=link&utm_campaign=footer_links)

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