Sprint 1 – Image Pre-Processing

Date	**10-11-2022**
Team ID	**PNT2022TMID26433**
Project Name	**AI Powered Nutrition Analyzer for Fitness Enthusiasts**

Data Set:

In our Dataset we have collected images of the five variety of fruits.

- Apple
- Orange
- Watermelon
- Muskmelon
- Banana

Image Pre-processing:

❖ Importing the imagedatagenerator library

From keras.preprocessing.image import imagedatagenerator

❖ Configuring imagedatageneratorclass
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, colour_mode = 'rgb', class_mode = 'sparse')

X_train=train_datagen.flow_from_directory(r'/content/data set/TEST_SET', target_size = (64,64), batch_size = 5, colour_mode = 'rgb', class_mode = 'sparse')

Data Collection:

unzipping the dataset

! unzip'/content/dataset.zip'

Inflating:Dataset/TRAIN_SET/WATERMELON/r_288_100.jpg

Inflating:Dataset/TRAIN_SET/WATERMELON/r_289_100.jpg

Inflating:Dataset/TRAIN_SET/WATERMELON/r_28_100.jpg

Inflating:Dataset/TRAIN_SET/WATERMELON/r_290_100.jpg

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Inflating:Dataset/TRAIN_SET/WATERMELON/r_8_100.jpg

Inflating:Dataset/TRAIN_SET/WATERMELON/r_9_100.jpg

Image Pre-processing:

Importing the imagedatagenerator library

From keras.preprocessing.image import imagedatagenerator

Image Data Augmentation:

Configuring imagedatageneratorclass

Train_datagen=imagedatagenerator(rescale = 1./255,shear_range = 0.2, zoom_range = 0.2, horizontal_Test_datagen) = imagedatagenerator(rescale = 1./255)

Applying image data generator functionality to trainset and testset:

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X_train=train_datagen.flow_from_directory(r'/content/data set/TRAIN_SET', target_size = (64,64), batch_size = 5, colour_mode = 'rgb', class_mode = 'sparse')

Applying image data generator functionality to testset

X_train=train_datagen.flow_from_directory(r'/content/data set/TEST_SET', target_size = (64,64), batch_size = 5, colour_mode = 'rgb', class_mode = 'sparse')

Found 4118 images belonging to the 5 classes

found 929 images belonging to 5 classes

checking the number of classes

Print(x_train.class_indices)

{'APPLE': 0, 'BANANA': 1, 'ORANGE': 2, 'MUSKMELON: 3', 'WATERMELON': 4}

From collections import counter as c
C (x_train.labels)
Counter({0: 995, 1: 1354, 2: 1019, 3: 275, 4:475})