**COMPUTER VISION ASSIGNMENT**

In this,the first thing I did was,I grouped all the broken\_grain\_’s and full\_grains\_’s to Broken\_grain and Mixed\_grain folders respectively.I also grouped all the image\_’s in the test folder to Mixed\_grain folder.Here,the images in Mixed\_grain are used for the testing with the images in the Broken\_grain and Full\_grain folders.

As the process is same for all the image\_’s.But the broken\_grain\_ and full\_grain\_ used are different.Actually I made a classification of photos of the images in the Mixed\_grain folder with the images in the Broken\_grain and Full\_grain folders.The match of images in the Broken\_grain and Full\_grain folders was found by their sizes.The size is taken in account on how they are displayed,whether vertically or horizontally.The images in horizontal are matched with the images in horizontal postion and vice versa.One image from Broken\_grain and Full\_grain which matches according to the previous statement and those two are matched with the image in the Mixed\_grain folder based on the size.The match was found not only on the basis of size but also on some Data Preprocessing method.The images(broken\_grain\_ and full\_grain\_ images)which produces more number of images during Data preprocessing were selected.More number of images produced can help in matching with the images in the Mixed\_grain folder.

As a result,broken\_grain\_3 and full\_grain\_3 are taken to test the the images image\_1 and image\_2 and broken\_grain\_2 and full\_grain\_4 are taken to test the images image\_3,image\_4 and image\_5.

Data preprocessing method takes image path as input and output as contours.A dataset folder is created and it is divided into train and test folders.The images in the full\_rice inside the train folder is cut and moved to full\_rice in test folder.The same procedure is performed in the broken\_rice also.The path of the image to be tested is asked from the user to input.

I have done the testing of the 5 images differently.As said before broken\_grain\_3 and full\_grain\_3 are taken to test the the images image\_1 and image\_2 and broken\_grain\_2 and full\_grain\_4 are taken to test the images image\_3,image\_4 and image\_5.

**FOLDERS**

The folders image\_1,image\_2,image\_3,image\_4 and image\_5 contains the outputs when their respective codes are run.In each folder,there will be dataset folder containing test and train folder which has image samples for matching and counting.Mixed is the folder having the sample images to use for matching with images in dataset folder.The image ‘rice\_adapthresh.png’ has computed local threshold based on given window size,image ‘rice\_erosion.png’ has cleaned up the binary images and ‘rice\_contours.png’ outline the shape of the rice.

The code of respective images are there in ech of the image\_ folders having extension .ipynb.

**submission.csv folder**

This folder contains the number of total\_rice\_grain and total\_broken\_rice\_grain got as result from each of the image\_ .jpg files**.**

REFERENCE : <https://github.com/sreeram004/Count-the-number-of-Palm-Trees>