

Lab Assignment – 1 (Part 2)

Objective: To learn Image Data Pre-processing operations involved in a machine learning tasks.



1. **Home Appliance dataset** To Build a Home Appliance dataset for two classes: LCD TV vs REFRIGERATOR. Download 25 images of TV and REFRIGERATOR for each class, keep in separate folders. Note: Images can be in any format (.png,.jpg, jpeg, tiff etc).
2. **Read** the images from two different folders. Automate the process. Avoid mentioning the paths of the images manually. Use built in functions of popular libraries for reading images.
3. **Operations:** Do the resizing and cropping operations on the original images



Original



Resized

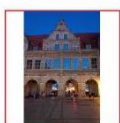


Cropped

4. **Stack** all the image data into a single array of size $25 \times 100 \times 100 \times 3$. Now this array is now the dataset we wanted to build.
5. **Conversion.**
 - Convert all images into grey scale.
 - Convert all images into Binary form.

Suggested Platform: Python: Azure Notebook/Google Colab Notebook, packages such as numpy, Skimage, opencv

****Try for filled image other image operations.**



Filled