

# School of Computer Science Engineering and Technology

Course- BTech  
Course Code- 301  
Year- 2022  
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Type- Core  
Course Name-AIML  
Semester- Even  
Batch- 4<sup>th</sup> Sem (SPL)

## 1 - Lab Assignment # No. (1.2)

**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). (15)
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. (15)
3. **Perform** the following operations resize (for example into 100\*100\*3) and crop. leave the choice to users. (25)



Resized



Cropped

4. **Stack** all the image data into a single array of size 25\*100\*100\*3. Now this array is now the dataset we wanted to build. (10)
5. **Conversions.** (25)
  - Convert all images into grey scale and create a grey scale dataset.
  - Convert all images into binary image and create a binary image dataset.

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