

Neural Network- 19B16CS311
Assignment Sheet
Assignment-11(a) and Assignment 11(b)
Topic: Object Identification
Practice Assignment

Ques:1 Design a system that will input a dataset of approx 912 kept at following location-
http://www.vision.caltech.edu/Image_Datasets/Caltech101/

There exist 101 categories of objects' images and each category contains 4 to 800 images. Most categories have about 50 images. The size of each image is roughly 300 x 200 pixels. Image files (in three subdirs) are named in format:label_image_XXXX (4 digits).

Write a Convolution Neural Network code for object classification for the above given dataset.

- Your code should provide outcome in a CONFUSION MATRIX.

		CORRECT Category							
		airplanes	butterfly	flower	grand_piano	starfish	watch		
PREDICTED Cat	airplanes	36	2	1	1	1	1	row SUM = 42	
	butterfly	0	6	3	0	3	2	row SUM = 14	
	flower	0	2	28	2	4	3	row SUM = 39	
	grand_piano	0	0	0	13	0	0	row SUM = 13	
	starfish	1	5	2	1	4	2	row SUM = 15	
	watch	4	3	3	2	5	38	row SUM = 55	
	column SUM	41	18	37	19	17	46		
total examples = 178, errors = 53 (29.8%)									

- Provide Overall test set accuracy.
- Plot the learning curve
- Change partition of Training and test set and plot the accuracy curve of varying partition sizes.
- Provide results of various hyper tune parameter to increase accuracy of classification outcome.