Computer Vision
Group_14
Assignment-2 Observation
(Image Classification)

1 . KNN Classifier :

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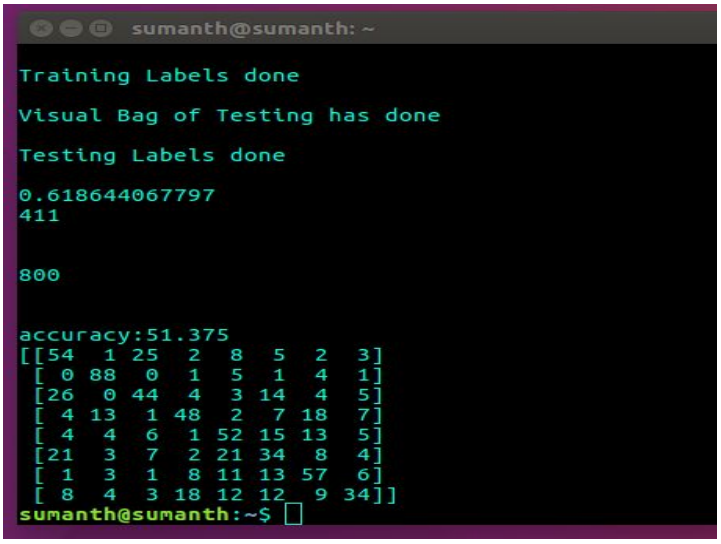
|		32	50	64	100	128
|	3	46.3	47.8	48.2	48.8	49.3
n	5	47.1	49.3	51.4	52.25	53.4
|	8	51.375	51.25	53.3	51.7	54.0
|	16	53.8	54.0	51.8	53.5	54.125

1 . We got highest accuracy in KNN classifier when K=50 and n = 16.

2 . Along with that, when K=128 and n = 16 we got 54.125.



Our confusion matrix for when K=32 and n=8 and Accuracy is 51.375.

2 . SVM Classifier :

K	Accuracy
32	31.5
50	47
64	44.25
100	51.75
128	57.0

1 . We got higher accuracy of 57.0 when K value is 128 in Linear-SVM which is higher than KNN at same K and n=8.
2 . Increase in Accuracy is observed when Clustering increases.

3 . TRANSFER LEARNING :

VGG16 :

Epochs	Test_Accuracy	Train_Accuracy
10	72.13	90.83
25	73.33	95.76
50	77.00	96.8
500	76.698	97.29
1000	77.496	97.6

1 . Increase in Accuracy is directly proportional to Increase in Epochs.

4 . Extra Credit :

Layers	Test Accuracy	Epochs	Train Acc
2	64.697	5	77.25
3	66.66	5	76.11
4	70.496	5	79.6
5	72.685	5	82.78

We can observe that there is a increase in accuracy when no:of training layers are increased.

Learning rate = 0.001.