SIT 789

Task 8.1: Speech emotion recognition using MFCC features

Comparison between SVM and AdaBoost accuracies using MFCC features

Num MFCC	Accuracy (SVM)	Confusion Matrix (SVM)	Accuracy (AdaBoost)	Confusion Matrix (AdaBoost)
12	63.2	[[29 0 3 0] [4 12 14 2] [8 0 22 2] [4 7 3 18]]	41.4	[[30 0 2 0] [13 0 9 10] [24 0 3 5] [4 0 8 20]]
14	63.2	[[29 0 3 0] [4 12 14 2] [8 0 22 2] [4 7 3 18]]	39.8	[[31 0 1 0] [14 1 10 7] [24 2 3 3] [4 4 8 16]]
16	63.2	[[29 0 3 0] [5 12 13 2] [8 0 22 2] [4 7 3 18]]	51.5	[[31 0 1 0] [8 1 13 10] [19 0 10 3] [0 4 4 24]]
18	63.2	[[29 0 3 0] [5 12 13 2] [8 0 22 2] [4 7 3 18]]	50.7	[[31 0 1 0] [4 1 17 10] [20 0 9 3] [0 4 4 24]]
20	64.8	[[29 0 3 0] [5 14 11 2] [8 0 22 2] [4 7 3 18]]	50	[[30 0 2 0] [6 1 15 10] [20 0 9 3] [0 4 4 24]]
22	64.1	[[29 0 3 0] [5 13 12 2] [8 0 22 2] [4 7 3 18]]	50	[[30 0 2 0] [6 1 15 10] [20 0 9 3] [0 4 4 24]]
24	64.1	[[29 0 3 0] [5 13 12 2] [8 0 22 2] [4 7 3 18]]	36.7	[[28 0 4 0] [12 1 13 6] [20 0 10 2] [0 4 20 8]]
26	62.5	[[29 0 3 0] [5 13 12 2] [10 0 20 2] [4 7 3 18]]	43.7	[[27 0 5 0] [12 1 4 15] [20 4 5 3] [0 4 5 23]]
28	62.5	[[30 0 2 0] [4 13 13 2] [10 0 20 2] [4 8 3 17]]	44.5	[[27 0 5 0] [12 1 3 16] [20 3 6 3] [0 4 5 23]]
30	62.5	[[30 0 2 0] [4 13 13 2] [11 0 19 2] [4 7 3 18]]	35.9	[[28 0 4 0] [9 0 15 8] [20 0 8 4] [0 2 20 10]]

We can see that the highest accuracy for Adaboost is 51.5% (num mfcc = 16)whereas SVM outperforms Adaboost with the highest accuracy of 64.8% (num mfcc = 20).