

**TRAIN FILE:**

NUMBER OF STUMPS	RUN TIME(ON SILO)
50	10.468 seconds
500	1min 28 seconds
1000	3min 50 seconds
1200	4min 35 seconds
1500	5min 10 seconds
2000	6min 44 seconds
6000	20min 52 seconds

**TEST FILE:**

NUMBER OF STUMPS	RUN TIME(ON SILO)	ACCURACY OBTAINED
50	0.507 seconds	41.56%
500	2.996 seconds	54.29%
1000	5.921 seconds	58.00%
1200	6.819 seconds	60.65%
1500	8.628 seconds	60.73%
2000	11.371 seconds	61.29%
6000	33.948seconds	65.53%

From the results obtained in the above table we can infer that with increase in the number of stumps the accuracy of the classifier increases but the performance measure decreases considerably for training as the time taken for the model to train is around 10 mins for 2000 stumps. Thus for comparing all the 192\*192 stumps the performance of the model would have been very poor. Also the model accuracy increases with increasing training data size, but again the performance of the model decreases If the training data size has been increased.

As for the prediction of the orientation of each image here are a few examples(for 6000 stumps):

Consider the first 6 images:

Actual Image in test set	Output Obtained from testing
test/10008707066.jpg 0	test/10008707066.jpg 0
test/10099910984.jpg 0	test/10099910984.jpg 0
test/10107790656.jpg 180	test/10107790656.jpg 180
test/10161556064.jpg 270	test/10161556064.jpg 270
test/10164298814.jpg 0	test/10164298814.jpg 0
test/10196604813.jpg 90	test/10196604813.jpg 270

As we can compare the results obtained and the actual results from the test set our model classified the last image in the above table wrongly. There is no fixed trend in predicting the orientation of the images it all depends on which features ie.. the pixels which are being compared, and since these are random some of the images are classified correctly while some are not. However the range in which the accuracy is always obtained for each stump size is relatively small and we don't get a lot of fluctuations in the accuracy% on the same train data size and the same number of stumps.