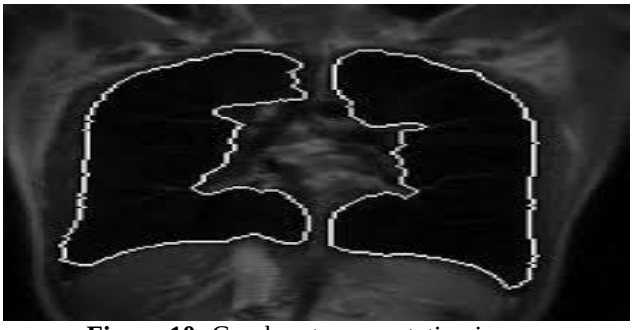

Figure 10: Graph-cut segmentation image.

b.Classifier Performance:

We should compare the CXRs with three different classifier.

A.SKS Hospital

One of the CXRs obtained is abnormal and its accuracy is first noted using the KNN classifier.It got an accuracy of about 75.3%.By performing classification using the SVM classifier, an accuracy of about 89.9% is obtained.The same CXR is performed classification using the Multi-class SVM classifier.We achieve an accuracy of about 94.3%.

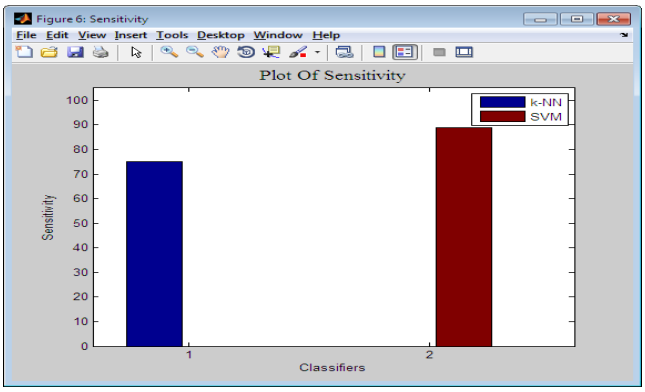

Figure 11: comparison of classification between KNN and SVM classifiers

B.Ganga Hospital

We should perform the experiment as we done in the SKS Hospital set.Using kNN classifier,we measured an accuracy of about 70.9% and using Multi-class SVM classifier we achieved a accuracy of about 76.9% and using Multi-class SVM classifier we achieve an accuracy of about 84.5%.

C.Dharanya Clinic:

We should perform the same experimennt as we done in the GANGA Hospital set.First,using kNN classifier,we measure an accuracy of about 83.4%.Using SVM classifier,we measure an accuracy of about 86.5% and using Multi-class SVM classifier.We measure an accuracy of about 92.6%. Finally we should compare the classification of three classifiers.

Table 1: Comparison table of kNN,SVM&Multi-class SVM classifier.

CLASSIFIER	*SKS Hospital*	*GANGA Hospital*	*DHARANYA Clinic*
kNN	75.3%	70.8%	83.4%
SVM	89.9%	76.9%	86.5%
Multi-class SVM	94.3%	84.5%	92.6%

c.Comparison with other Classifiers:

The other classifiers,used in our previous experiments, measured an accuracy below our observed results.(i.e.)from 70% and below 70%.Hence our classifiers are the best in measuring the accuracy of TB.From the results of three hospital,the classifiers we used measures a better accuracy.Hence they are better in identyfying TB with more accuracy.But our main motive is to find the classifier with best accuracy.By comparing the accuracy of three classifier,we can obtain the result.

d.Comparison with HumanPerformance:

In earlier methods,we have used several methods to measure the accuracy and diagnosing TB.As years passed by,everyone should move in progress in all departments.Especially in the medical field,everyone approaches a new technique for the manifestation of the disease.The advantage in our classifier is,it is suitable for all the people(poor,middle & high-class).It finds a best result in achieving the performance of the human experts.

e.Comparison of Classifier accuracy:

For this comparison,an approximate of 150 lung images can be used to identify the classifier with best accuracy.

Note:*The number of images used here is a approximate value and it doesn't related to our experiment.For ur experiment we used few data sets to compare the accuracy.*

Table 2: Comparison of Classifier Accuracy.

Technique Used	*Number of Images*	*Accuracy*
k-Nearest Neighbours	150	75% Normal Analysis 78% Abnormal Analysis
Binary-Support Vector machine	150	89% Normal Analysis 87% Abnormal Analysis
Multi-class Support vector machine	150	92% Normal Analysis 90% Abnormal Analysis

6. Conclusion

In this paper,we have developed an accurate method for the manifestation of TB.We have used different classifiers and identified which is the best classifier in TB manifestation.By taking CXR as input,we have compared it with different classifiers and measured the accuracy,that is up to the performance of the human experts.From the results,we have identified that Multi-class SVM classifier is the best in detecting TB with more accuracy.Hence this *Multi-class SVM Classifier* is promising in achieving the performance of the human experts.

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