

CAD SYSTEM

Tuberculosis is a major health disease with very high mortality rates whose diagnosis at early stage is difficult. A number of automated approaches have been developed for detecting tuberculosis. CAD systems use conventional posterior chest X radiographs (CXR) for detecting tuberculosis. The major step in CAD system is segmentation of chest X radiograph followed by feature extraction and classification of X-rays. Edges, borders and cavities are detected by segmentation. Feature extraction deals with computation of texture, shape feature, and focal abnormalities. Finally chest X radiographs are classified into normal or abnormal. For this classification, a binary classifier called Support Vector Machine is used. To study the performance of CAD system, two databases are compared- one dataset from health department in the US and the other from Shenzhen Hospital, China. Additionally, performance of CAD system is compared with the performance of clinical officers and radiologists.