Abstract

Ultrasound imaging is one of the promising techniques used for early detection of prostate cancer. The image is segmented by different methods after preprocessing. In this paper,
DBSCAN clustering with morphological operators is used to extract the prostate region. It is proposed to analyze the performance of the features extracted from the different Gray Level Co-occurrence Matrix (GLCM) constructed for various distances with different combination of directions, since there is no research has been conducted so far. Then, Support Vector Machine (SVM) is used to classify the images into benign or malignant using the extracted features. The performance of the classification is evaluated using various statistical measures such as sensitivity, specificity and accuracy. The proposed method is tested over 5500 digitized TRUS images of prostate.

References


**Index Terms**

Computer Science  
Image Processing

**Keywords**

Support Vector Machine  
SVM  
Gray Level Co-occurrence Matrix

DBSCAN

M3-Filter