Abstract

This paper presents a pattern similarity scheme for predicting the real stage of breast cancer. This project allowed the development of content based image retrieval (CBIR) systems, capable of retrieving images based on their similarity with the query image and identifies the correct stages of the breast cancer. The proposed scheme involves low level feature extraction from images like shape and texture features. Shape features used in this scheme are Zernike moments and Radial Chebyshev moments. Texture features of contrast, energy and run length matrix features are also used with the shape features. These extracted features are then classified using SVM. The output of the SVM is considered as patterns. The similarity between two patterns is estimated as a function of the similarity of both their structures and the measure components. The proposed scheme can be effectively applied for image retrieval from large databases and also used to determine the correct stage of breast cancer and get the treatment in appropriate time.

References

- H. Greenspan and A. T. Pinhas, “Medical image categorization and retrieval for PACS
Diagnose the Stages of Breast Cancer using SVM

- M. Emre Celebi and Y. Alp Aslandogan “A Comparative Study of Three Moment-Based Shape Descriptors”
- Ilaria Bartolini, Paolo Ciaccia, Irene Ntoutsi, Marco Patella, and Yannis Theodoridis “A Unified and Flexible Framework for Comparing Simple and Complex Patterns”
- Dan Popescu, Radu Dobrescu, and Maximilian Niculae, “Texture Classification and Defect Detection by Statistical Features”.
- Renato 0. Stehling Mario A. Nascimento Alexandre X. Falgo “An Adaptive and Efficient Clustering-Based Approach for Content-Based Image Retrieval in Image Databases”.

**Index Terms**

Computer Science Pattern Recognition

**Keywords**

SVM classifier    Content based image retrieval (CBIR)    feature    pattern similarity