

AN INNOVATIVE ADVENT FOR CONTENT BASED ULTRASOUND IMAGE RETRIEVAL USING ANN

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ABSTRACT

Medical domain of knowledge overall has increased so much that its databases have become difficult to manage and handle in case of diagnosis and treatment of the patients. In such situations, CBIR System aims to retrieve the images from the image database which are similar to the image given by the user as a query. CBIR systems are based on the primitive features such as color, shape and texture, used for both the query image and the image in the database as well. On one hand, where the Medical images have become vital resources in the management of patient records and on the other hand, CBIR systems aim to give the desired performance. The main idea is to embed the technique of clustering and classifier into CBIR, in order to enhance the accuracy and speed of the system. Overall, the system begins with extraction of features of the image in the database i.e. color, shape and texture, and one statistical feature PCA (Principal Component Analysis), then clustering and training of the feature vectors of these images with the help of Artificial Neural Networks and at last the fetching of images those are relevant to the user's query and the user. The research idea was to come up with a CBIR system with added module of clustering and classification using ANN for efficient results. Also it has shown better results in terms of accuracy and as well as covers the comparisons with the other techniques where only single feature or two features were concerned for the retrieval of the medical images. And it has been found that the system gives better results in terms of speed, time and accuracy.