Abstract

The role of segmentation in image processing is to separate foreground from background. In
this process, the features become clearly visible when appropriate filters are applied on the image. In this paper emphasis has been laid on segmentation of biometric retinal images to filter out the vessels explicitly for evaluating the bifurcation points and features for diabetic retinopathy. Segmentation on images is performed by calculating ridges or morphology. Ridges are those areas in the images where there is sharp contrast in features. Morphology targets the features using structuring elements. Structuring elements are of different shapes like disk, line which is used for extracting features of those shapes. When segmentation was performed on retinal images problems were encountered during image pre processing stage. Also edge detection techniques have been deployed to find out the contours of the retinal images. After the segmentation has been performed, it has been seen that artifacts of the retinal images have been minimal when ridge based segmentation technique was deployed. In the field of Health Care Management, image segmentation has an important role to play as it determines whether a person is normal or having any disease specially diabetes. In India alone more than 5 million people are affected by diabetes. During the process of segmentation, diseased features are classified as diseased one's or artifacts. The problem comes when artifacts are classified as diseased one's. This results in misclassification which has been discussed in the analysis section. Macular Degeneration is one of the diseases in diabetic retinopathy which will never be classified as artifacts due to the size of exudates. In this paper an attempt has been made to evaluate macular degeneration.

References

Study of Macular Degeneration with Respect to Artifacts on Retinal Images


Index Terms

Computer Science
Electronic Design And Signal Processing

Keywords
Pupil Sclera Limbus Diabetes Micro-aneurysms Exudates Gabor Log Bifurcation
Sobel
Gray Level
Decision Tree
Knn