Abstract

Microaneurysms (MAs) are the earliest clinical sign of Diabetic Retinopathy. MA detection at early stage can help to reduce the blindness. In this paper software based method is presented for early detection of diabetic retinopathy using non dilated retinal images. Here, initially an automated system is generated to identify diabetic affected eye among the several input retinal images. Graphical presentation of MA count for different images can easily classify the normal eye and the diabetic affected eye. Then the performance analysis of the above system is carried out graphically using the affected eye. The average sensitivity, specificity, precision and accuracy are the important performance analysis parameters and measured as 81.68%, 99.98%, 83.00% & 99.97% respectively for ten diabetic affected retinal images.
Software based Automated Early Detection of Diabetic Retinopathy on Non Dilated Retinal Image through Mathematical Morphological Process

References


Index Terms

Computer Science

Applied Sciences
Keywords
Microaneurysms (MAs)  Diabetic Retinopathy (DR)  Contrast Limited Adaptive Histogram Equalization (CLAHE)
Exudates