Abstract

Diabetic retinopathy is serious health issue in recent survey. Diabetic disease occurs when insulin level in blood vessels decreases and body is unable to process properly. If diabetic increases then it effect the retina of fundus and this disease damage the blood vessels and damage the retina. The aim of this study to detect blood vessels, identify hemorrhage and classify diabetic retinopathy in normal, moderate and proliferative stage. There are two levels of diabetic retinopathy non proliferative and proliferative stage. Non proliferative is first stage of diabetic retinopathy which include micro aneurysms and cotton wool spots. If it is increases then it enters into proliferative stage. In past days hemorrhage detected manually pixel by pixel method. In this paper developed automated method for detection of hemorrhage, in which used template matching technique for the detection of hemorrhage. For detection of proper size of hemorrhage region growing segmentation used in this method. For elimination of false positive fovea filter used this will eliminate wrongly detected blood vessels as hemorrhage. This study is improving our automated hemorrhage detection method to help diagnosis of diabetic retinopathy. The sensitivity for the detection of abnormal cases were 80 % and 90% respectively. These results indicate that this new method may improve the performance of diagnosis system for detection of hemorrhage.
Detection of Hemorrhage from Fundus Images using Hybrid Method

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