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## Abstract

At present, Diabetic Retinopathy was considered as the main cause of blindness for diabetic patients. The Diabetic Retinopathy can be identified at an earlier stage by detecting the microaneurysms in the retina of the patients. For this purpose, ophthalmologists will regularly supervise the retinal images obtained using the color fundus camera. During this regular supervision the ophthalmologists should spend more amount of time and energy. The space

required to store the normal and abnormal retinal images will also increase. A new method for detecting the microaneurysms from the color fundus retinal image based on feature classification was proposed in this project, to reduce the ophthalmologists' time and energy for verifying the retinal images. The microaneurysms are detected from the color fundus image by applying the preprocessing techniques in order to remove the optic disk and similar blood vessels using morphological operations. The preprocessed image was then used for feature extraction and these features were used for classification purpose. The classifier used is Support Vector Machine which improves sensitivity, specificity and gives an average accuracy of 90%.

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### **Index Terms**

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### **Keywords**

Diabetic Retinopathy (dr) Microaneurysms Morphology Support Vector Machine.