Abstract

Diabetic retinopathy occurs in people who have diabetes from last 8 to 10 years. It can damage the retina, the light-sensitive lining at the back of the eye. Diabetic retinopathy is a major sight-threatening snag of diabetes. The disease is considered by too much sugar in the blood, which can reason damage all through the body, including the eyes. DIARETDB0, DIARETDB1, STARE and DRIVE online fundus image database is taken, total 656 image. Diabetic retinopathy is categorized into four diseases such as abnormal blood vessels, hemorrhages, microaneurysms and exudates. After extraction of diabetic retinopathy features classification is performed. Proposed new classification technique for identification of stage of diabetic retinopathy, means whether the extracted feature image is normal or abnormal. That we have classified with the help of proposed classification tool. Also principal component analysis and linear discriminant analysis is applied on extracted diabetic retinopathy features. For proposed classification, we got 97.17 % result. For principal component analysis we got 94.80 % result and for linear discriminant analysis we got 93.13 % result. Overall proposed algorithm got 94.34 % result for classification of diabetic retinopathy. The proposed research work entitled, “Design and Development of Novel Classifier for Diabetic Retinopathy Features Database Classification”, is only restricted to abnormal blood vessels, hemorrhages, microaneurysms and exudates. The diabetic retinopathy is having several diseases like, cotton wool spots, drusen, macular edema and so on. These diseases is not extracted by the proposed algorithm. The future scope for the proposed algorithm is to encompass this algorithm with proliferative and non-proliferative diabetic retinopathy diseases also.