ABSTRACT

This study aims to develop a system to distinguish Diabetic retinopathy disease from fundus images. In this work, we extracted different Diabetic retinopathy features such as Diabetic retinopathy, optic disc and lesions, applied convolutional neural network based models for the detection of multiple Diabetic retinopathy diseases with fundus photographs involved in structured analysis of the retinal (STARE - Structured Analysis of the Retina) database. A variety of neuron-wise and layer-wise visualization methods were applied using CNN and trained with a publicly available Diabetic retinopathy disease image dataset. It is observed that neural networks can capture the colors and textures of lesions specific to respective diseases upon diagnosis, which resembles human decision-making.Diabetic Retinopathy is a condition that is caused by excessive glycemia. It can often be tough to tell the variation among DR and fundus photographs. To avoid difficulties, it is crucial to acknowledge the difference before concluding the disease and grafting the treatment plan. We can detect many Diabetic Eye Disease illnesses using Cnns. In addition to this, Cnns also detects the colors and patterns of sores and matches them to relevant conditions during medical diagnosis, which is similar to human decision-making. The Django web framework showcases the best output that is derived after comparing 3 models of Cnn. To determine the most efficient and accurate categorization of Diagnosed images, researchers use many related images as input into this convolutional semantic networks. The output derived shows whether the given input image is affected with DR or not. This also an easy process which is easily done by CNN models.