

Diabetic Retinopathy Detection using Convolutional Neural Network

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Abstract: *Diabetes Mellitus, commonly known as Diabetes, is a caused due to high range of sugar in the human body. After a period of time diabetes will lead to a deficiency in eye called as Diabetes Retinopathy. The major symptoms of this disorder are bulging of blood vessels, small lesions and other eye related eyes. Diabetic Retinopathy is a complication that affect the eye due to the result of high blood glucose called diabetes. It can cause vision loss and in severe condition can lead to complete blindness. Early symptoms of diabetic retinopathy include blurred vision, darker areas of vision, eye floaters and difficulty in perceiving colors. Proper detection of diabetic retinopathy in early stage is extremely important to prevent complete blindness. Of an estimated 285 million people with diabetes mellitus worldwide, approximately one third have signs of diabetic retinopathy. The idea of our project is to analyze the severity level of the diabetes retinopathy using three different training methods. Deep learning plays a major role in the project. Proposed Model has been trained with three types, back propagation NN, DNN (Deep Neural Network) and CNN (Convolutional Neural Network).*

Keywords: Deep learning, Diabetic Retinopathy, Convolutional Neural Networks, Input, the human eye, classification, GUI.

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