

ABSTRACT

A major cause of human vision loss worldwide is Diabetic Retinopathy(DR). The disease requires early screening for slowing down the progress. The diagnosis of diabetic retinopathy (DR) through color fundus images requires experienced clinicians to identify the presence and significance of many small features which, along with a complex grading system, makes this a difficult and time consuming task. In this project, we propose a Convolutional Neural Networks(CNN) approach to diagnosing DR from digital fundus images. We develop a network with CNN architecture which can identify the intricate features involved in the classification task such as micro-aneurysms, exudate and haemorrhages on the retina and consequently provide a diagnosis automatically and without user input. We train this network using CNN on the publicly available Kaggle dataset and demonstrate impressive results, particularly for a high-level classification task.