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Artificial Intelligence based Early Recognition of Diabetic Retinopathy

Prof. Shradha Wankhede, Prof. Priyanka Chaudhari, Ms. Simran devanand janbandhu
Department of Computer Science and Engineering
Tulsiramji Gaikwad Patil College of Engineering and Technology, Nagpur, India

Abstract: *Diabetic retinopathy (DR), a prevalent outcome of diabetes mellitus, causes lesions of the back of the eye that impair vision. If it fails to be detected in time, paralysis could follow. Unfortunately, there is presently no known treatment for DR; the only choice is avoidance. Rapidly reducing the risk of vision loss involves early identification and treatment of DR. DR retina fundus pictures must be manually diagnosed by ophthalmologist, which is more costly, time-consuming, and error-prone than computer- aided diagnosis techniques. Deep learning has recently risen to the top of the list of preferred methods for improving performance, particularly when it comes to classification and decoding of medical images. Convolutional artificial neural networks are being employed in the interpretation of healthcare pictures since they are such an effective learning technique using Artificial Intelligence. The most sophisticated methods for classifying and identifying DR colour images of the fundus using algorithms based on deep learning have been examined and analyzed for the reason of this research. Additionally, the colour the fundus retinal DR data have been examined. Additionally, certain difficult problems requiring more research are dealt with.*

Keywords: Computer-aided diagnosis, Artificial Intelligence, Diabetic retinopathy, stages Retinal fundus images etc

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