LITERATURE SURVEY

Deep Learning Fundus Image Analysis for Early Detection of Diabetic Retinopathy

S.NO	TITLE/YEAR	AUTHORS/ NAME OF THE JOURNAL	DESCRIPTION
1	Detecting Diabetic Retinopathy using Deep Learning(2017)	Yashal Shakti Kanungo,Bhargav Srinivasan, Dr. Savita Choudhary **IEEE**	In this paper, colour fundus photography has been used and the results suggest that the model has realistic clinical potential.They proposed concrete methods to find the optimal Hyper parameters quickly which is an important task at hand. The trained model achieved respectable scores considering the limited nature of training data that is available.
2	A Deep Learning Method for the detection of Diabetic Retinopathy(2018)	Novoneel Chakraborty **IEEE**	The primary goal is to automatically classify patients having diabetic retinopathy and not having the same, given any High-Resolution Fundus Image of the Retina. A Deep Learning Approach is applied in which the processed image is fed into a Convolutional Neural Network to predict whether the patient is diabetic or not. This methodology is applied on a dataset of 30 High Resolution Fundus Images of the retina.
3	A Deep Learning Ensemble Approach for Diabetic Retinopathy Detection(2019)	Sehrish Qummar, Faiz Gul Khan, Sajid Shah , Ahmed Khan, Shahabodain Shahsirband, Zia Ur Rahman, Iftikhar Ahmad Khan, Waqas Jadoon **IEEE *Access***	In this research, they have used the publicly available Kaggle dataset of retina images to train an ensemble of five deep Convolutional Neural Network (CNN) models (Resnet50, Inceptionv3, Xception, Dense121, Dense169) to encode the rich features and improve the classification for different stages of DR. The experimental results show that the proposed model detects all the stages of DR unlike the current methods and performs better compared to state of the art methods on the

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			same Kaggle dataset.
4	Early Deep Detection for Diabetic Retinopathy(2020)	Abdelrahman Elzennary, Moustafa Soliman, Mohamed Ibrahim **IEEE**	The main objective of this project is to build a reliable and computationally efficient deep learning model for the automated DR diagnosis. In this paper, a computationally efficient deep learning CNN is presented based on the DenseNet-121 neural network architecture that provides very deep CNN with lower computational resources using the concept of transfer learning. The model also detects the severity of the disease. The proposed deep learning model is trained and tested using the commonly used labelled retinal images data set and the cloud GPU provided by the community of data scientists and machine learners, Kaggle.
5	Research on Deep Learning in the Detection and Classification of Diabetic Retinopathy. (2021)	Yue Miao; Siyuan Tang; Pengcheng Du; Zhaoyang Li. **IEEE**	Colour doppler ultrasound imaging, fundus photography, Optical Tomography and Fundus Fluorescein angiography are commonly used in the diagnosis and treatment of diabetic retinopathy. Recently, deep learning techniques have been developed to assist in the early screening and diagnosis of diabetic retinas on a large scale. This article mainly introduces the research value and significance of deep learning in diabetic retina.