LITERATURE SURVEY

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S.no	Authors	Title	Abstract
1	T. A. Soomro *et al*. .	Deep Learning Models for Retinal Blood Vessels Segmentation: A Review	This paper presents a comprehensive review of the principle and application of deep learning in retinal image analysis. This paper characterizes each deep learning based segmentation method as described. Analyzing along with the limitations and advantages of each method. In the end, we offer some recommendations for future improvement for retinal image analysis.
2	S. Gupta, A. Panwar, A. Kapruwan, N. Chaube and M. Chauhan	Real-Time Analysis of Diabetic Retinopathy Lesions by Employing Deep Learning and Machine Learning Algorithms using Color Fundus Data	The color fundus dataset scans after processing are passed to multiple Deep Learning (DL) models employed to learn characteristics. These models trained on millions of different images from thousands of classes. Finally, several machine learning classifiers were used to classify lesions using the collected

			characteristics. The extracted result shows very eye-catching performance. This enables experts to create architecture that fully addresses the problem of classifying unidentified scans into the right class or category.
3	M. Z. Atwany, A. H. Sahyoun and M. Yaqub.	Deep Learning Techniques for Diabetic Retinopathy Classification: A Survey	This paper reviews and analyzes state-of-the-art deep learning methods in supervised, self-supervised, and Vision Transformer setups, proposing retinal fundus image classification and detection.the paper discusses the available retinal fundus datasets for Diabetic Retinopathy that are used for tasks such as detection, classification, and segmentation. The paper also assesses research gaps in the area of DR detection/classification and addresses various challenges that need further study and investigation.
4	N. Memari, S. Abdollahi, M. M. Ganzagh and M. Moghbel. .	Computer-assisted diagnosis (CAD) system for Diabetic Retinopathy screening using color fundus images using Deep learning	The proposed computer-assisted diagnosis system starts with the segmentation of the blood vessels. Then, microaneurysms and exudates are segmentation from the image. Statistical and regional features are then extracted utilizing first, second, and higher-order image features. A Deep Learning framework will be utilized for extracting additional statistical image descriptors as Deep Learning has superior contextual analysis capabilities compared to

			other machine learning techniques.
5	B. Bulut, V. Kalın, B. B. Güneş and R. Khazhin	Deep Learning Approach For Detection Of Retinal Abnormalities Based On Color Fundus Images	This research uses the Xception model with transfer learning method to classify images obtained from Akdeniz University Hospital Eye Diseases Department. During the analysis, the Xception model containing 50 different parameter combinations was trained by scanning the appropriate hyper-parameter space for the model. Comparisons were made for the top 9 models with the highest performance.in order to test the performance of the model with an independent data set, open access fundus images were used for test analysis and binary classification AUC (Area Under Curve) values were calculated for 21 different diseases.
6	B. Goutam, M. F. Hashmi, Z. W. Geem and N. D. Bokde.	A Comprehensive Review of Deep Learning Strategies in Retinal Disease Diagnosis Using Fundus Images	This article presents a comprehensive study of different deep learning strategies employed in recent times for the diagnosis of five major eye diseases, i.e., Diabetic retinopathy, Glaucoma, age-related macular degeneration, Cataract, and Retinopathy of prematurity.
7	H. Yeh, C. -J. Lin, C. -C. Hsu and C. -Y. Lee.	Deep-learning based automated segmentation of Diabetic Retinopathy symptoms	Deep learning is used in many types of preprocessing for segmentation. We preprocessed fundus images and inputted them into the model for training. Finally, LDF image was used to obtain

			the best preprocessing method for optic disc segmentation in fundus images.
8	H. Kaushik, D. Singh, M. Kaur, H. Alshazly, A. Zaguia and H. Hamam.	Diabetic Retinopathy Diagnosis From Fundus Images Using Stacked Generalization of Deep Models	In this research, a methodology to eliminate these unnecessary reflectance properties of the images using a novel image processing schema and a stacked deep learning technique for the diagnosis. For the luminosity normalization of the image, the grey world colour constancy algorithm is implemented which does image desaturation and improves the overall image quality.
9	W. Zhang, X. Zhao, Y. Chen, J. Zhong and Z. Yi. .	DeepUWF: An Automated Ultra-Wide-Field Fundus Screening System via Deep Learning	The emerging ultra-wide field of view (UWF) fundus colour imaging is a powerful tool for fundus screening. However, manual screening is labor-intensive and subjective. Based on 2644 UWF images, a set of early fundus abnormal screening systems named DeepUWF is developed. The experimental results show that these preprocessing methods are helpful to improve the learning ability of the networks and achieve good sensitivity and specificity. Without ophthalmologists, DeepUWF has potential application value, which is helpful for fundus health screening and workflow improvement.
10	A. Bali and V. Mansotra.	Deep Learning-based Techniques for the Automatic Classification of Fundus Images: A Comparative Study	In this paper different deep learning (DL) techniques for automatic classification of fundus

			images have been discussed and results are compared on the basis of accuracy, f1-score and AUC

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