LITERATURE REVIEW:

Date	19th September 2022
Team ID	PNT2022TMID52149
Project Name	Deep Learning Fundus Image Analysis for Early Detection of Diabetic Retinopathy.
Maximum Marks	2 marks

S.no	Author	Tittle	Year	Abstract
1.	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	2022	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 di erent 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
2.	T.A.Soomro et al	Deep Learning Models for Retinal Blood Vessels Segmentation: A Review	2019	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.
3.	M.Z. Atwany, A. H. Sahyoun and M. Yaqub.	Deep Learning Techniques for Diabetic Retinopathy Classification: A Survey	2022	This paper reviews and analyzes state-ofthe-art deep learning methods in supervised, selfsupervised, and ation, and

				segmentation.
4.	B.Bulut, V. Kalın, B. B. Güneş and R. Khazhin	Deep Learning Approach For Detection Of Retinal Abnormalities Based On Color Fundus image	2020	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 di erent parameter combinations was trained by scanning the appropriate hyperparameter space for the model.
5.	N.Memari, S. Abdollahi, M. M. Ganzagh and M. Moghbel.	Computer-assist ed diagnosis (CAD) system for Diabetic Retinopathy screening using color fundus images using deep learning.	2020	The proposed computer-assiste d d iagnosis 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 higherorder 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.
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	2022	This article presents a comprehensive study of di erent deep learning strategies employed in recent times for the diagnosis of five major eye diseases I.e.,,Diabetic retinopathy, Glaucoma, agerelated macular degeneration, Cataract, and Retinopathy of prematurity.
7.	H. Yeh, C. -J. Lin, C.	Deep-learning based	2020	Deep learning is used

	-C. Hsu and C. -Y. Lee	automated segmentation of Diabetic retinopathy symptoms.		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