CLASSIFICATION OF ARRHYTHMIA BY USING DEEP LEARNING WITH 2-D ECG SPECTRAL IMAGE REPRESENTATION

LITERATURE SURVEY

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S.No	PAPER	AUTHOR	ABSTRACT	RESULT
1.	Early detection of diabetic retinopathy from retinal fundus images using Eigen value analysis.	R.Manjula Sri V.Rajesh	Diabetic Retinopathy is the frequent cause of blindness. Diabetic retinopathy is a complication of diabetes mellitus. The longer one is suffering with diabetes the more is the probability of diabetic retinopathy (DR). DR leads to several abnormalities like Micro aneurisms (MA); hard exudates (HE), haemorrhages (Hem) and Cotton wool spots (CWS). MA is first symptom of DR. the detection of MA is important for the early detection of DR. Proposed MA detection based on Eigen value analysis using hessian matrix in retinal images. The objective of the proposed work is, to develop an algorithm for improved MA detection. The algorithm employed Eigen value analysis from Hessian matrix to detect MAs. MA particle analysis is employed to measure the area of MA in retinal image. Lab VIEW software is used to implement the algorithm.	Developed an algorithm for MA detection method based on Eigen value analysis using hessian matrix in retinal Fundus image. The method was effective in the detection of dark lesion in the retinal Fundus image. When this method was evaluated by using 89 images of a data base, the true positive rate of visible MAs is 91 % with eight false positive images.
2.	Real Time Analysis of Diabetic Retinopathy Lesions by Employing Deep Learning and Machine Learning Algorithms	S. Gupta, A. Panwar, A. Kapruwan, N. Chaube and M. Chauhan.	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	For fast detection of DR and its stages, the identification of lesions like MAs is a must. These can be detected by observing the early-stage symptoms. The characteristics from the scans were then extracted using CNN models. Our results

	using Color Fundus Data		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.	verify that Inception V3 model can easily classify the MA scans from color fundus images. The benefit of using the Inception V3 architecture is that in very less time the detection and classification of MAs are done which will help the ophthalmologist in early detection of MAs. The Inception V3 architecture and LR algorithm gives AUC, accuracy, f1 score, precision, and recall as 95.9%, 92%, 90.3%, 93.2%, and 92
3.	Deep Learning Approach For Detection Of Retinal Abnormalities Based On Color Fundus Images	B. Bulut, V. Kalın, B. B. Güneş and R. Khazhin.	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	Results from multiple studies show an accuracy average of about 91% and promising classification performance overall. Other research directions could involve studying Diabetic Macular Edema (DME) since detecting DME is highly likely to mean that the retina is developing DR. Transformers introduced more explainable methods that can help overcome the limitations of nongeneralizability. Hidden indicators can now be detected more accurately, thanks to the various context enrichment approaches used in patching and embedding of fundus images.