DEEP LEARNING FUNDUS IMAGE ANALYSIS FOR EARLY DETECTION OF DIABETIC RETINOPATHY

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LITERATURE SURVEY

Table:1

Sl. No.	Title	Author & Publications	Year	Description
1.	Convolutional Network with Twofold Feature Augmentation for Diabetic Retinopathy Recognition from Multi-model Images	Cam-Hao Hua, Kiyoung Kim, Thien Huynh-The, Member, IEEE, Jong In You, Seung-Young Yu, Thoung Le-Tien, Member IEEE, Sung-Ho Bae, Member, IEEE, and Sungyoung Lee, Member, IEEE & *IEEE JOURNALOF BIOMEDICAL AND HEALTH INFORMATICS.*	2020	The widespread availability of multi-model retinal imaging for each diabetes patient nowadays, such approach can reduce the heavy reliance on large quantity of labeled visual data.

LITERATURE SURVEY(CONTD.)

Sl. No.	Title	Author & Publications	Year	Description
2.	Automatic Diabetic Retinopathy Diagnosis Using Adaptive Fine-Tuned Convolutional Neural Network	FAHMAN SAEED, MUHAMMAD HUSSAIN, AND HATIM A. ABOALSAMH & *IEEE Access.*	2021	The manual screening of colour fundus images to detect DR at early stage is expensive and time consuming.

LITERATURE SURVEY(CONTD.)

Sl. No.	Title	Author & Publications	Year	Description
3.	A Novel Approach of Diabetic Retinopathy Early Detection Based on Multifractal Geometry Analysis for OCTA Macular Images Using Support Vector Machine	MOHAMED M. ABDELSALAM AND M. A. ZAHRAN & *IEEE Access.*	2021	Analyzing the macular optical coherence tomography angiography (OCTA) images for diagnosing early non-proliferative diabetic retinopathy (NPDR). Using a supervised machine learning method as a Support Vector Machine (SVM) algorithms to automate the diagnosis process.

LITERATURE SURVEY(CONTD.)

Sl. No.	Title	Author & Publications	Year	Description
4.	Hybrid Retinal Image Enhancement Algorithm for Diabetic Retinopathy Diagnostic Using Deep Learning Model	SALF HAMEED ABBOOD, HAZA NUZLY ABDULL HAMED, MOHD SHAFRY MOHD RAHIM, AMJAD REHMAN,TANZILA SABA, AND SAEED ALI BAHAJ & *IEEE Access.*	2022	Hybrid retinal image enhancement algorithm for improving the quality of images to strengthen the standard of color fundus images by reducing the noise and improving the contrast.

LITERATURE SURVEY(CONTD.)

Sl. No.	Title	Author & Publications	Year	Description
5.	Multitasking Deep Learning Model for Detection of Five Stages of Diabetic Retinopathy	SHARMIN MAJUMDER, AND NASSER KEHTARNAVAZ, & *IEEE Access.*	2021	Our model uses two loss functions, one for loss the classification task and the other for the regression task.

LITERATURE SURVEY(CONTD.)

Sl. No.	Title	Author & Publications	Year	Description
6.	Diabetic Retinopathy Detection Using Prognosis of Microaneurysm and Early Diagnosis System for Non-Proliferative Diabetic Retinopathy Based on Deep Learning Algorithms	LIFENG QIAO, YING ZHU, AND HUI ZHOU & *IEEE Access.*	*2020*	The presence of microaneurysm in fundus image using convolutional neural network algorithms that embeds deep learning as a core component accelerated with GPU which will perform medical image high-performance and low-latency interface.

LITERATURE SURVEY(CONTD.)

Sl. No.	Title	Author & Publications	Year	Description
7.	Early Diagnosis of Diabetic Retinopathy using Random Forest Algorithm	Nihel ZAABOUB, Ali DOUIK & *5th International Conference on Advanced Technologies for Signal and Image Processing, ATSIP.*	*2020*	The Transfer learning technique is applied to the feature extraction of DR.

LITERATURE SURVEY(CONTD.)

Sl. No.	Title	Author & Publications	Year	Description
8.	Transfer Learning Approach for Diabetic Retinopathy Detection using Residual Network	R. S. Rajkumar, T Jagathishkumar, Divi Ragul and Dr. A. Grace Selvarani, & *Sixth International Conference on Inventive Computation Technologies [ICICT 2021]*	*2021*	A learning method in retinal image with removed optic disk. This paper proposes the use of Random forest algorithm.

LITERATURE SURVEY(CONTD.)

Sl. No.	Title	Author & Publications	Year	Description
9.	CANet: Cross-disease Attention Network for Joint Diabetic Retinopathy and Diabetic Macular Edema Grading	Xiaomeng Li,Student Member, IEEE, Xiaowei Hu, Lequan Yu, Student Member, IEEE, Lei Zhu, Member, IEEE, Chi-Wing Fu, Member, IEEE, and Pheng-Ann Heng, Senior Member, IEEE & *IEEE Transactions on Medical Imaging.*	*2019*	This present a cross-disease attention network to jointly grade DR and DME, and explore the individual diseases and also internal relationship between two diseases by formulating two attention modules.

LITERATURE SURVEY(CONTD.)

Sl. No.	Title	Author & Publications	Year	Description
10.	Classification of Different Stages of Diabetic Retinopathy using Convolutional Neural Networks	P.Saranya, K.M. Umamaheswari, Dr. M. Sivaram, Chirag Jain and Debarpan Bagchi & *2nd International Conference on Computation, Automation and Knowledge Management (ICCAKM).*	*2021*	A Convolutional Neural network based and classify the grades of DR. CNN method to detect and classify the levels of DR is a 4-stages process.

LITERATURE SURVEY(CONTD.)

Sl. No.	Title	Author & Publications	Year	Description
11.	Detection of Diabetic Retinopathy Based on Convolutional Neural Networks: A Review	Halbast Rashid , Adnan Mohsin Abdulazeez and Dathar Abas Hasan & *Asian Journal of Research in Computer Science.*	*2021*	Convolution Neural Networks has been shown that have high potential and accurate results to be training for detection of the features of DR in the fundus images and to the automated retinal images analysis.

LITERATURE SURVEY(CONTD.)

Sl. No.	Title	Author & Publications	Year	Description
12.	Diabetic Retinopathy Detection using Machine Learning	Revathy R, Nithya B S, Reshma J J, Ragendhu S S, Sumithra M D & *International Journal of Engineering Research & Technology(IJERT).*	*2020*	This study process a machine learning method for extracting three features like exudates, hemorrhages, and classification using hybrid classifier which is a combination of support vector machine, k nearest neighbour, random forest, logistic regression, multilayer perception network.

THANK YOU