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INTRODUCTION

In view of the recent amendment made in the Patents Act, 1970 by the Patents (Amendment) Act, 2005 effective from 01st January 2005, the Official Journal of The Patent Office is required to be published under the Statute. This Journal is being published on weekly basis on every Friday covering the various proceedings on Patents as required according to the provision of Section 145 of the Patents Act 1970. All the enquiries on this Official Journal and other information as required by the public should be addressed to the Controller General of Patents, Designs & Trade Marks. Suggestions and comments are requested from all quarters so that the content can be enriched.

(Shri Rajendra Ratnoo)
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(57) Abstract :
The data scarcity problem in eye dataset to detect eye diseases like diabetic retinopathy, glaucoma and ARMD leads to difficulty in building an affective model with high accuracy using machine learning algorithms or deep neural networks. Likely, optimizing a grading model to have strong generality requires a more data to train the dataset, which is exceedingly difficult for the high severity classes. Traditional data augmentation methods, including random flipping and left/right rotations, cannot generate data with high diversity. To address this, we propose a Variational Auto Encoder Convolutional Neural Network model (VAE-CNN) to synthesize the high-resolution retinal image data and identify the prevalence of the diabetic retinopathy disease. Every VAE can learn to reconstruct each class independently and generating new samples for each class. The pre-processed images are input to DL architecture (CNN in our invention) for the automatic extraction of features and their associated weights to learn the classification rules. The features weights are optimized recursively to ensure the best classification results. Finally, the optimized weights are tested on an unseen set of images.

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