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Hybrid Novel Network to Agnize the Severity of Retinal Detachment using Derived Novel Formula

Publisher: IEEE[Cite This](#) [PDF](#)L. Poongothai ; K. Sharmila [All Authors](#) ...

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Document Sections

I. Introduction

II. Related Work

III. Methodology

IV. Experimental Results

V. Conclusion

Authors

Figures

References

Keywords

Metrics

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Abstract:

Retinal detachment (RD) is a detriment that can lead to visionary loss, and thereby derogate the quality of life that one can sufficiently lead. This paper introduces the implementation of a novel hybrid deep learning architecture called HYSEb0 that is established to classify the severity of retinal detachment, along with effectively rendering the classifier accuracy for the stratification performed. This network is constructed through the commingling of SqueezeNet and EfficientNet-b0 with transfer learning incorporated in the classification layer, through the utilization of a fully connected convolution layer and ReLU activation. The derived novel formula is chipped into the classification layer to implement the segregation of the severity classes, and further trained to render higher classifier accuracy. The simulation of this network architecture is implemented in MATLAB using the Deep Learning toolbox, and the results obtained evince higher accuracy as compared to the existing models and network frameworks.

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Contents

I. Introduction

The detriment in the vision for an individual can cause a colossal damage to the quality of life. Loss of vision can be caused due to several ~~Symptoms~~ Causes ~~in Eye Disease~~ such as glaucoma, diabetic retinopathy, macular degeneration and cataract, to name a few.

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