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(57) Abstract :
 ABSTRACT A Hybrid Image-Based Deep Learning Framework for Accurate Retinal Disease Diagnosis The present disclosure describes a hybrid image based deep learning framework 100 for Accurate Retinal Disease Diagnosis. It comprises of image acquisition unit 200 having retinal fundus camera 202, image sensor 204 and lens system 206 , image reprocessing unit 300 having image enhancement unit 302, image registration unit 304 and image segmentation unit 306, hybrid image generation unit 400 having spatial frequency decomposition module 402 and hybrid image creation module 404, deep learning module 500 having graphic processing unit 502, convolutional neural network (CNN) 504, model training unit 506 and model interface unit 508 and ensemble learning 600. The framework integrates hybrid images, deep learning models, and ensemble learning techniques to extract highly discriminative features and accurately classify multiple diseases in fundus images.

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