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(57) Abstract :
Disclosed herein is an artificial intelligence-based system (100) for automated detection and classification of diabetic retinopathy, the system (100) comprising a user interface (102) integrated into a user device (104) and configured to receive retinal fundus image data from a user and facilitate interaction between the user and the system (100), a communication network (106) configured to establish a communication link for seamless transmission of data among components of the system (100), a processing unit (108) configured to evaluate the retinal fundus image data to generate a diabetic retinopathy classification result, wherein the processing unit (108) further comprises a data acquisition module (112), a preprocessing module (116), a segmentation module (118), a lesion detection module (120), a feature extraction module (122), an inference module (124), a multi-class classification module (126), a prediction generation module (128) and an output module (132).

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