LITERATURE SURVEY

described a system for diabetic retinopathy grade classification based on fractal analysis and random forest using MESSIDOR dataset. Their system segmented the images, then computed the fractal dimensions as features. They failed to distinguish mild diabetic retinopathy to severe diabetic retinopathy. [Qomariah 2019] proffered an automated system for classification of Diabetic Retinopathy and normal retinal images using concurrent neural network (CNN) and support vector machine (SVM). Features comprised of exudates, haemorrhage and microaneurysms. The author partitioned the proposed system into 2 parts: the first part composed with feature extraction based on neural networks and the second part performed classification using SVM. [Kumar, 2018] proposed a system for improved diabetic retinopathy detection by extracting area and number of microaneurysms using colour fundus images from DIARETDB1 dataset. Pre-processing of fundus images were performed using green channel extraction, histogram equalization and morphological process. Principal component analysis (PCA), contrast limited adaptive histogram equalization (CLAHE), morphological process, averaging filtering were applied for microaneurysms detection and classification is done by linear support vector machine (SVM). [Mohamed Chetoui, 2018] proffered a system which detect diabetic retinopathy using different texture feature and machine learning classification model. Two features haemorrhage and exudates are extracted using local ternary pattern (LTP) and local energy- based shape histogram (LESH). SVM is used for leaning and classification of extracted histogram using feature vectors of LTP and LESH. [S Choudhury, 2016] proposed a system which deals with fuzzy C means based feature extraction and classification of diabetic retinopathy using SVM. Blood vessels extraction is performed using top hat filter and mathematical morphology. Retinal vessel density and exudates are chosen as the features. Exudate extraction is done by fuzzy C means segmentation. Gaussian Radial Basis function is used to map the training data into SVM kernel space. [Sangwan, 2015] described a system that identifies different stages of diabetic retinopathy based on blood vessels, haemorrhage and exudates. The features are extracted using image pre-processing and they are fed into the neural network.