**Abstract**

Diabetic Retinopathy (DR) is an eye filled illness caused by the complication of polygenic disease and that is to be detected accurately for timely treatment. As polygenic disease progresses, the vision of a patient could begin to deteriorate and leads to blindness. In this proposed work, the presence or absence of retinal exudates are detected using machine learning (ML) techniques. To detect the presence of exudates features like Mean, Standard deviation, Centroid and Edge Strength are extracted from Luv color space after segmenting the Retinal image. A total of 100 images were used, out of which 80 images were used for training and 20 images were used for testing. The classification task carried out with classifiers like Naive bayes (NB), Multilayer Perceptron (MLP) and Extreme Learning Machine (ELM). Experimental results shows that the model built using Extreme Learning Machine outperforms other two models and effectively detects the presence of exudates in retinal images.