ABSTRACT

Diabetic retinopathy is damage to the retina of human eye which is cause by the complication of increase in blood glucose level which can eventually leads to blindness. The longer the patient has diabetes the higher the chance of developing diabetic retinopathy. DR is the deterioration of retinal blood vessel. This project, a novel method for automatic detection of both microaneurysms and hemorrhages in color fundus images is described and validated.

The main contribution is a new set of shape features, called Dynamic Shape Feature, that do not require precise segmentation of the regions to be classified. These features represent the evolution of the shape during image flooding and allow discriminating between lesions and vessel segments. Extreme learning machine (ELM) is used to improve segmentation accuracy. MATLAB tool used to evaluate a performance of proposed system.