**Abstract**

  This research present the detection and segmentation of brain stroke using fuzzy c-means clustering and H2O deep learning algorithms. Brain stroke segmentation in magnetic resonance imaging (MRI) has become an evolving research area in the field of a medical imaging system. Brain stroke detection helps in finding the exact size, shape, extraction and location of the stroke. The system is consisting of three stages to detect and segment a brain stroke. An efficient algorithm is proposed for stroke detection based on segmentation and preprocessing techniques. The firstly quality of a scanned image is enhanced and then preprocessing techniques are applied to detect the stroke in the scanned image. In this system film artifacts removal, skull extraction and filtering methods are used to enhance the image. The second stage preprocessed image is segmented using fuzzy c-means clustering to obtain stroke region and edges are detected for accurate prediction of stroke location. After that edge detection operator is applied for boundary extraction and to find the size of the stroke, which helps doctors to make a decision about stroke location, size and etc. Finally, H2O deep learning method is used to classify stroke based on texture features and statistical features. The experimental result shows that the proposed work is performed well in detecting brain stroke efficiently.