$$d = \sum_{i=1}^{k} p(i) \log_2 \frac{p(i)}{q(i)} \quad (2)$$

C) Elapsed Time

Elapsed Time (ET) of a filter is defined as the time taken by a digital computing platform to execute the filtering algorithms when no other software, except the operating system (OS), runs on it. Though ET is not only dependant on the clock time. Rather, in addition to the clock-period, it depends on the memory-size, the input data size, and the memory access time. However, the measure ET is very important in case of real-time application. The execution time taken by a filter should be low for online and real-time image processing applications. Hence, a filter with lower ET is better than a filter having higher ET value when all other performance-measures are identical.

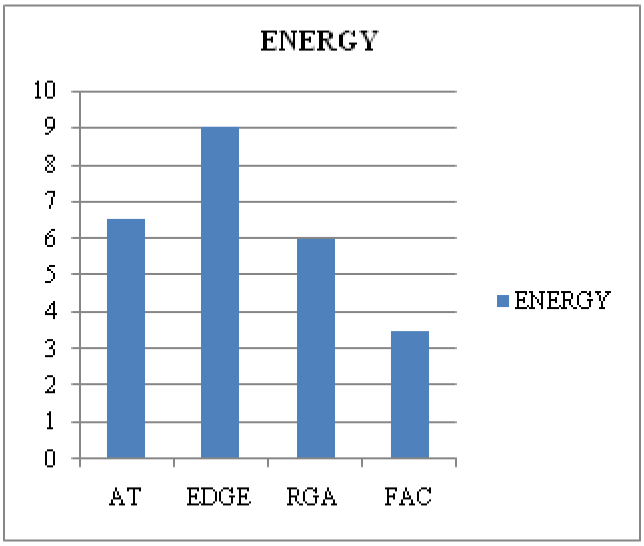

Figure 5: Energy value for the above mentioned segmentation methods

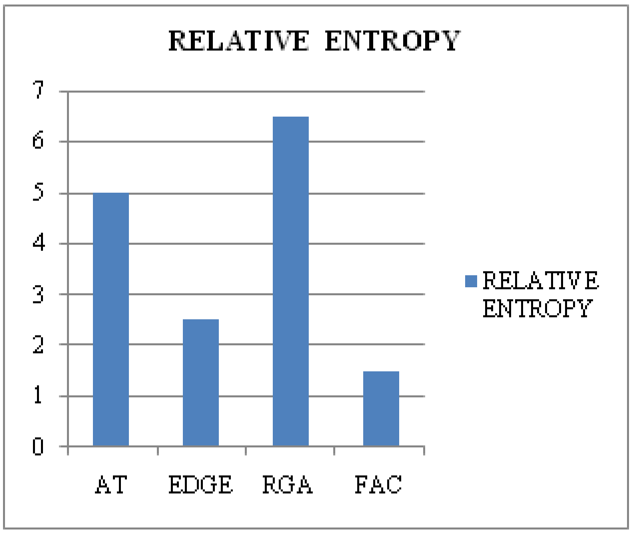

Figure 6: Relative Entropy value for the above mentioned segmentation methods

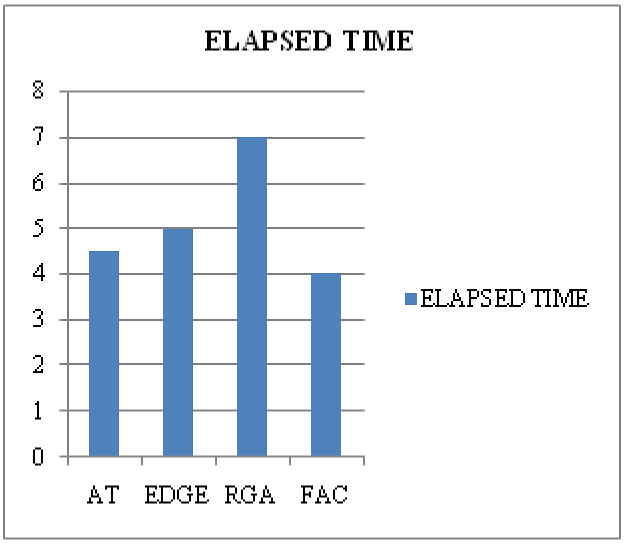

Figure 7: Elapsed Time value for the above mentioned segmentation methods

This experimental results for different segmentation methods shows that the proposed fuzzy active contour model gives better and accurate segmented output images as shown in fig 5,6,7.

5. Conclusion and Future Work

Our proposed work aims at scrutinizing the burden of physicians while examining the wireless capsular endoscopy images. This paper consists of two stages namely preprocessing and segmentation. In the first stage bowel images are preprocessed in order to enhance their quality by removing noise using a median filter. Then in stage two, these images are get segmented using fuzzy active contour model and compared with some of the existing methods[14] and proved as the best. As a future work these images are subjected to classification in order to obtain a more precise output.

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