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Brain tumor Simple Linear Iterative Clustering Segmentation using Chan -vese Contour

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ABSTRACT: Brain tumor prediction is a significant task in medical image handling. Early diagnosis of brain tumor assumes a significant job in improving treatment possibilities and expands the survival rate of the patients. Manual segmentation of the brain tumors for cancer growth analysis, enormous measure of MRI images produced in clinical routine is troublesome and time consuming task. In this paper, to recognize thermal data of brain tumors, the proposed basic linear iterative clustering is given a chain vese contour strategy. In this paper, a median filtering strategy is utilized as a preprocessor and segmentation is finished by Fuzzy corner metric algorithm. To diminish the computational complexity and to build the computing time Simple Linear Iterative Clustering is used. The last process is to remove the tumor cells by chan - vese contour utilizing angle vector field as outside force. The proposed strategy accomplishes higher precision rate of about 98.6% and it is efficient compared with past fuzzy clustering technique.

Keywords- Fuzzy c-means, thermal information, median filtering fuzzy corner metric, chan vese contour.

I INTRODUCTION

Medical image investigation plays a most important role in biomedical sciences which is used for studying, analyzing and deciphering the problems. These problems are analysed from medical imaging datasets as acquired by various medical imaging modalities (such as MRI, X-Ray, CT-scan and ultrasound) through various quantitative and computational methods. These techniques helped a clinicians and medical experts to extract the important biological data from images that is useful for clinical decision-making, particularly neurosciences research and developing potential therapeutic strategies.

Past couple of years, there has been tremendous growth in using magnetic resonance imaging (MRI) for diagnostic and treatment process. MRI is a common non-invasive medical imaging modality which can be used for the diagnosis and analysis of internal structures, abnormalities and irregularities i.e., brain tumor.