BRAIN TUMOR DETECTION USING DEEP LEARNING

ABSTRACT:

A tumor is carried on by rapid and uncontrolled cell growth in the brain. If it is not treated in the initial phases, it could prove fatal. Despite numerous significant efforts and encouraging outcomes, accurate segmentation and classification continue to be a challenge. Detection of brain tumors is significantly complicated by the distinctions in tumor position, structure, and proportions. The main disinterest of this study stays to offer investigators, comprehensive literature on Magnetic Resonance (MR) imaging's ability to identify brain tumors. Using computational intelligence and statistical image processing techniques, this research paper proposed several ways to detect brain cancer and tumors. This study also shows an assessment matrix for a specific system using particular systems and dataset types. This paper also explains the morphology of brain tumors, accessible data sets, augmentation methods, component extraction, and categorization among Deep Learning (DL), Transfer Learning (TL), and Machine Learning (ML) models. Finally, our study compiles all relevant material for the identification of understanding tumors, including their benefits, drawbacks, advancements, and upcoming trends.

KEY TERMS: Brain tumor, image classification, image segmentation, deep learning, machine learning.

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