

Advanced Machine Learning for Brain Tumor Detection: Leveraging Region of Interest Analysis in MRI Scans

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Abstract: *This study introduces an advanced brain tumor detection method leveraging Region of Interest (ROI) analysis in MRI images to enhance diagnostic accuracy and efficiency. By applying sophisticated image processing and machine learning algorithms, our approach significantly improves the identification of tumor presence with reduced computational demands. The results show marked advancements over traditional methods, offering a promising tool for early and precise brain tumor diagnosis.*

Keywords: Brain Tumor Detection, Region of Interest (ROI), Magnetic Resonance Imaging (MRI), Image Processing Machine Learning, Diagnostic Accuracy, Computational Efficiency

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