

# Brain Tumor Detection using Convolution Neural Network

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**Abstract:** Brain tumors are a deadly disease with a life expectancy of only a few months in the most advanced stages. As a result, therapy planning is an important step in improving patients' quality of life. Various image techniques, such as Computed Tomography (CT), Magnetic Resonance Imaging (MRI), and Ultrasound images, are commonly used to assess tumors in the brain, lung, liver, breast, prostate, and other organs. MRI images are used to diagnose brain tumors in particular in this work. However the massive amount of data generated by MRI scan thwarts manual classification of tumor vs non-tumor in a particular time. As a result, a reliable and automatic classification technique is required to reduce the human fatality rate. Deep Learning has sparked a lot of interest in recent years. It has been widely used in a variety of applications and has proven to be an effective machine learning technique for a variety of complicated issues. The use of Convolution Neural Networks (CNN) classification for automatic brain tumor detection is proposed in this paper. Small kernels are used to create the deeper architecture. When compared to all other state-of-the-art methodologies, experimental results demonstrate that CNN archives have a rate of 97.5 percent accuracy with little complexity.

**Keywords:** Convolution Neural Networks (CNN), Kernels, Machine learning, Magnetic Resonance Imaging (MRI).

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