Brain Tumor Classification: A CNN and attention-Based CNN comparison

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Resumo

A brain tumor is characterized by the abnormal growth of a group of cells in or near the brain and is one of the top leading causes of death worldwide. One of the main problems related to brain tumors concerns the difficulty in diagnosing them, as their symptoms can be confused with those of a less serious condition, making it necessary to carry out several tests, where magnetic resonance imaging stands out as the more accurate exam. Considering the importance of the problem, this article aims to present a comparative study of the use of Convolutional Neural Network and Convolutional Neural Network with Attention Mechanism for the problem of classifying brain tumors based on magnetic resonance images (MRI). The results achieved suggest that the use of the attention mechanism can increase the accuracy of the CNN, thus increasing its ability to classify brain tumors.
Palavras-chaves: Brain tumor, Attention mechanism, CNN, MRI images, Classification