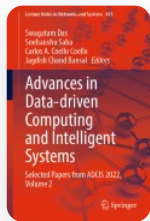


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MRI-Based Early Diagnosis and Quantification of Trans-Ischemic Stroke Using Machine Learning—An Overview

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Abstract

A “Transient Ischemic Attack” (TIA) is a brief period of neurological impairment brought on by cerebral ischemia that is not accompanied by persistent cerebral infarction. This type of neurological impairment can be caused by a lack of blood flow to the brain. According to the

World Health Organization (WHO), stroke is the leading cause of death and disability on a global scale. A transient ischemic attack (TIA) should be evaluated as soon as possible using imaging and laboratory tests in order to cut down on the possibility of further strokes. The primary objective of treatment for transient ischemic attack (TIA) is to lower the patient's chance of experiencing another TIA or stroke. Getting treatment after a transient ischemic attack can significantly lower the risk of having an early stroke. The severity of a stroke can be reduced if the numerous warning symptoms for a stroke are identified and treated promptly. When it comes to making a clinical diagnosis of TIA, the evaluation of the patient's medical history is still an essential component. In light of this, our primary objective was to provide an overview of the pathophysiology underlying transient ischemic attacks. In addition to this, we take a more in-depth look at the evaluation of the diagnostic procedures that can be used to identify transient ischemic attacks. The numerous works that have been done on the machine learning algorithms that are utilized to differentiate and identify the TIA and provide assistance with early diagnosis have been reviewed and discussed.

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