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Brain Stroke Prediction using Deep Learning

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Abstract: *A brain stroke is a potentially fatal medical disorder that develops when the brain's blood supply is suddenly cut off. Early detection and prevention are essential for enhancing patient outcomes because it is a primary cause of disability and mortality worldwide. With the development of artificial intelligence and machine learning, there is an increasing interest in using these technologies to create brain stroke prediction models. In this paper, we suggest a deep learning-based method for forecasting brain strokes. Our strategy is based on the architecture of convolutional neural networks (CNN) and recurrent neural networks (RNN). While the RNN analyses the patient's demographics, medical history, and test results, the CNN is utilized to extract features from medical pictures like computed tomography (CT) or magnetic resonance imaging (MRI) scans. The model is trained using a substantial dataset of patient records, including both those of patients who have had and have not had brain strokes. Our results imply that the deep learning-based strategy that has been described can be a useful tool for the early detection and prevention of brain stroke. Healthcare providers can take proactive steps to stop the disease by identifying people who are at high risk of having a brain stroke. Additionally, our method may be incorporated with clinical decision-making systems to offer in-the-moment forecasts and suggestions for patient care. As a result, our study shows the potential of deep learning methodologies in creating precise and trustworthy models for brain stroke prediction. Future research might examine the interpretability of the model's predictions as well as the generalizability of our model across various patient populations and data sources*

Keywords: Deep Learning, CNN, RNN, Early detection of stroke, clinical decision making