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Brain Stroke Detection using Magnetic Resonance Imaging

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Abstract: *This project customs innovative machine learnings methods to forecast brain strokes to MRI data. Leveraging high- resolution MRI scans, the model seeks to detect subtle changes indicative of stroke risk. By analyzing features like lesion location and intensity variations, it aims to capture the complex factors contributing tostroke occurrence. Additionally, the model aims to classify stroke subtypes, such as ischemic and hemorrhagic strokes, using multi-modal MRI data for personalized treatment strategies. Validation will be performed on diverse patient datasets, assessing sensitivity, specificity, and AUC-ROC. The outcome targets theadvancements of a a therapeutically useful instrument for earley stroke prediction, enabling proactive intervention andimproved patient outcomes. By integratingMRI and machine learning, this project aims to advance stroke diagnosis and treatment, reducing the burden on healthcare systems globally*

Keywords: Brain stroke, medical imaging, computer-aided-diagnosis, machine learnings, decision support systems, artificial intelligence