

(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :27/11/2024

(21) Application No.202431092982 A
(43) Publication Date : 06/12/2024

(54) Title of the invention : "Brain Tumor Prediction using Machine Learning"

(51) International classification :A61B5/00, G06T7/00, G16H30/40, G16H50/20, G06N3/0464, G06N20/10
(86) International Application No :NA
Filing Date :NA
(87) International Publication No : NA
(61) Patent of Addition to Application Number :NA
Filing Date :NA
(62) Divisional to Application Number :NA
Filing Date :NA

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(57) Abstract :

The present invention relates to a system and method for detecting and classifying brain tumors in MRI images using machine learning techniques. The system involves receiving MRI images of a patient's brain, followed by preprocessing to enhance image quality and reduce noise. The images are then segmented to isolate potential tumor regions, and relevant features such as texture, shape, and intensity are extracted. A machine learning model, such as a Convolutional Neural Network (CNN) or Support Vector Machine (SVM), is employed to classify these features and determine the presence, location, and type of tumor. The system outputs a prediction result that aids in early detection and diagnosis, providing valuable information to medical professionals for further analysis. The invention integrates these processes into a user-friendly, web-based application that allows for efficient and accurate brain tumor detection, supporting the medical community in improving patient outcomes through timely diagnosis.

No. of Pages : 16 No. of Claims : 10