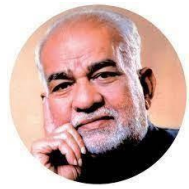
VISHNU UNIVERSAL LEARNING BVRIT H Estd. 2012

BVRIT HYDERABAD
College of Engineering for Women
(UGC Autonomous)
Department of Information Technology



5 DETECTION OF BRAIN TUMOUR DIAGNOSIS USING AI

ABSTRACT

Brain tumors are one of the most serious health concerns, and early detection can make a huge difference in treatment outcomes. In this mini-project, we are developing an AI-based system that predicts the future risk of a person developing a brain tumor, rather than just identifying existing cases. Our approach involves analyzing MRI scans and patient-related factors to estimate the likelihood of tumor development. We are using the Bra TS dataset for MRI images and generating synthetic data to incorporate additional risk factors. By combining these inputs, our model will provide a probability score instead of a simple Yes/No result—something like "This patient has a 70% risk of developing a brain tumor.

UNIQUENESS

• Risk Prediction	• SDG-3 Aligned
• Hybrid AI Model	• Probability Output

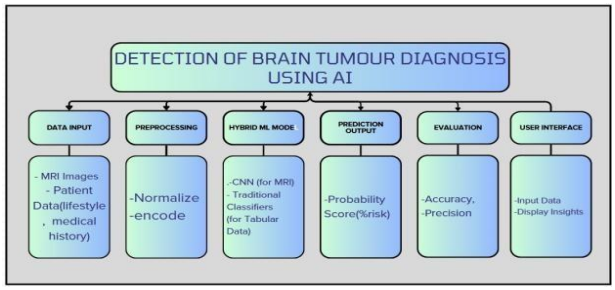
METHODOLOGY

The methodology involves using MRI scans from the BraTS dataset and synthetic patient data. Image sare normalized and health data is encoded. A hybrid model combining a CNN for image analysis and a Random Forest classifier for patient metadata is trained to predict a probability score for brain tumor development.

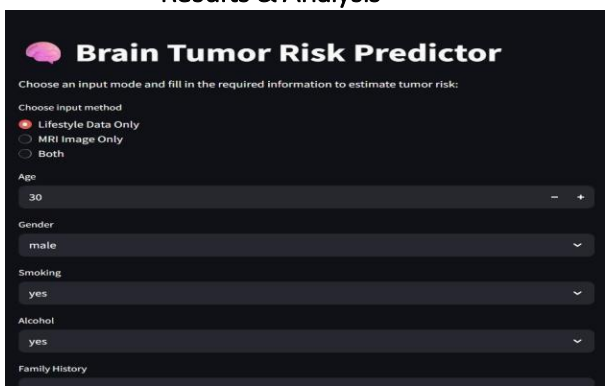
SOCIETAL USE

This project aids early detection of brain tumor risk by analyzing MRI images and lifestyle data. **It supports SDG 3 (Good Health and Well-being) by promoting timely medical consultation,** especially in areas with limited access to specialists. The model helps raise awareness and improve public health outcomes through accessible technology

Architecture



Results & Analysis



REFERENCES

[1] L.Aluri and D.Latha,"Automatic text summarization for Telugu language,"ICRTCST, 2022

[2]Pereiraetal.,2016–CNN for MRI classification

GITHUB LINK

https://github.com/Sritha22wh1a1228/brain-tumor-prediction

22WH1A1205
T.Bhavana Saksena

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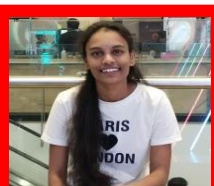

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