BRAIN TUMOUR DETECTION

BVRIT HYDERABAD College of Engineering for Women

Team Members

18WH1A0591 - A.Madhumitha

19WH5A0508 - G.Pravallika

18WH1A04B8 - V.Sathvika

18WH1A0207 - M.Krishna Tejaswi

18WH1A1254 - Y.Rakshitha

Introduction

Brain Tumour is one of the most dangerous diseases which require early and accurate detection methods. Now most detection and diagnosis methods depend on most neurospecialists and radiologists for image evaluation which is possible to human errors and time consuming. The main purpose of this project is to build a robust CNN model that can classify if the subject has a tumour or not based on Brain MRI scan images with an acceptable accuracy for medical grade application.

Some Images of Dataset

No Tumour (98 images)
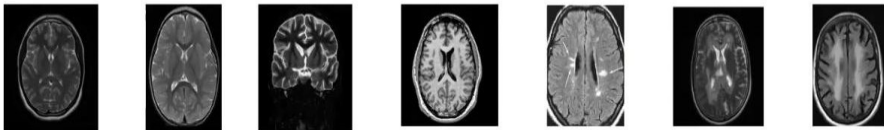
With Tumour (125 images)

Technologies
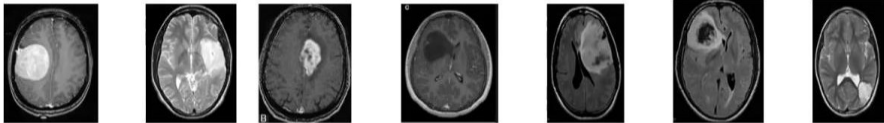
Python

Tensorflow v1.0+ and Tensorflow GPU version

Scikit learn libraries

Numpy and Scipy

LaTeX

Google Colaboratory

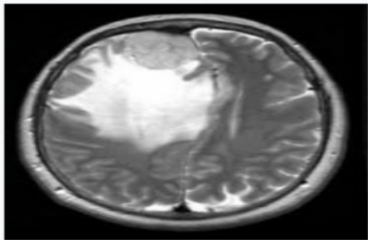Dataset - Kaggle
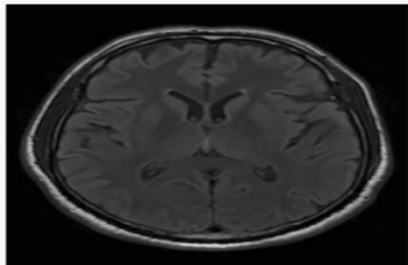
Web Framework - Flask

Challenges

Approach

- MRI image
- Preprocessing and Enhancement
- Image segmentation
- Feature Extraction
- Classification

Demo

Results

Result: Brain Tumor detected

Result: No Brain Tumor

Reference Links

- https://keras.io/applications/
- https://towardsdatascience.com/a-comprehensive-guide-to-convolutional-neural-networks-the-eli5-way-3bd2b1164a53
- https://simpleitk.org
- https://openreview.net/forum?id=BJIRs34Fvr
- https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6640210
- https://www.kaggle.com/navoneel/brain-mri-images-for-brain-tumor-detection

Thank you