BRAIN TUMOUR DETECTION

BVRIT HYDERABAD College of Engineering for Women

Team Members

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Introduction

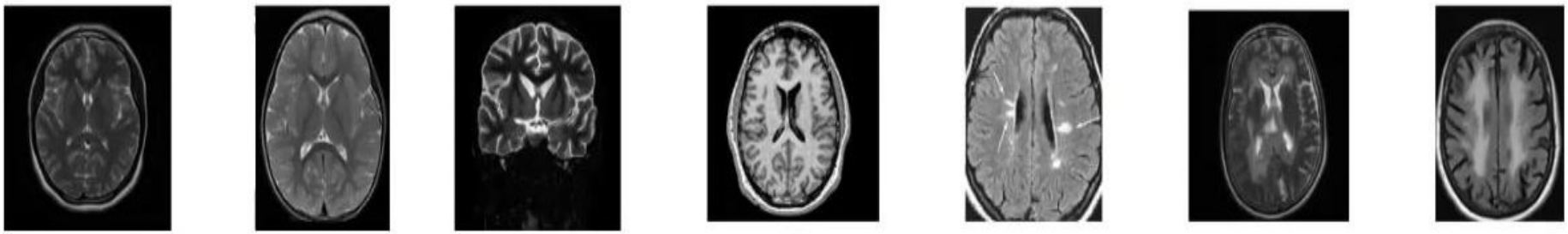
Brain Tumour is one of the most dangerous diseases which require early and accurate detection methods.

Now most detection and diagnosis methods depend on most neurospecialists and radiologists for image evaluation which is possible to human errors and time consuming.

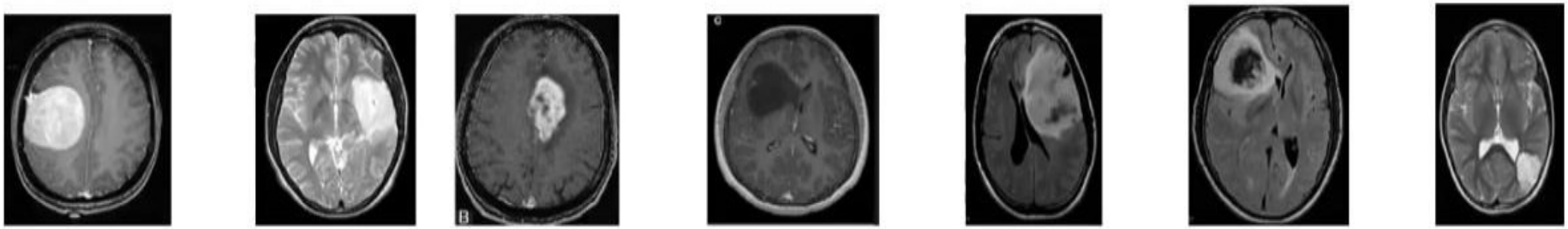
The main purpose of this project is to build a robust CNN model that can classify if the subject has a tumour or not based on Brain MRI scan images with an acceptable accuracy for medical grade application.

Some Images of Dataset

No Tumour (98 images)



With Tumour (125 images)



Technologies

Python 3

Tensorflow v1.0+ and Tensorflow GPU version

Scikit learn libraries

Numpy and Scipy

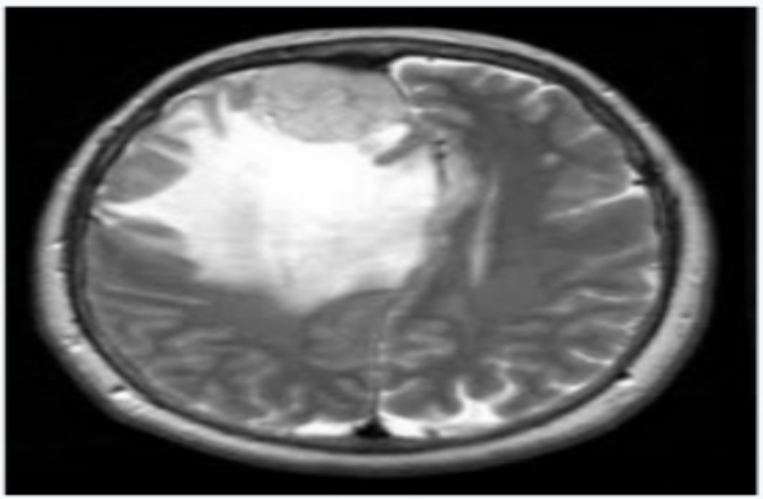
Google Colaboratory

Kaggle (dataset)

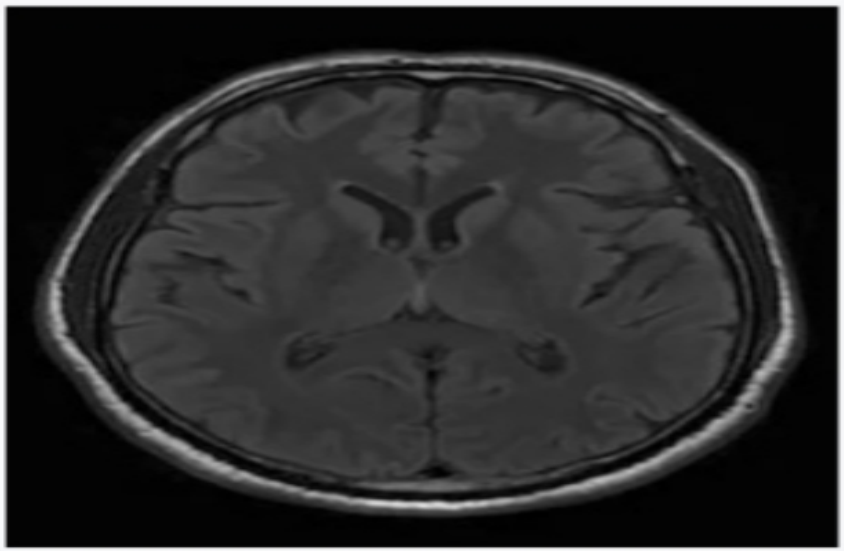
Approach

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

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

GitHub Links

https://github.com/madhumitha357/MLproject-BrainTumourDetection

https://github.com/Pravallika-G/MLProject-BrainTumourDetection

https://github.com/tejaswi2219/BrainTumor-Detection

https://github.com/Sathvika010/MLproject$_{B}rain - Tumor - Detection$

https://github.com/18wh1a1254/MI-Project$_{B}rainTumourDetection$

Thank you