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01

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02

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03

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04

Brain Tumor

What does brain tumor mean?

A brain tumor is a mass or growth of abnormal cells in your brain.

Many different types of brain tumors exist. Some brain tumors are noncancerous (benign), and some brain tumors are cancerous (malignant).

Brain tumors can begin in your brain (primary brain tumors), or cancer can begin in other parts of your body and spread to your brain as secondary (metastatic) brain tumors.

The growth rate as well as the location of a brain tumor determines how it will affect the function of your nervous system.

For that reasons, we must detect a brain tumor in its advanced stages before it gets worse.



The data consists of

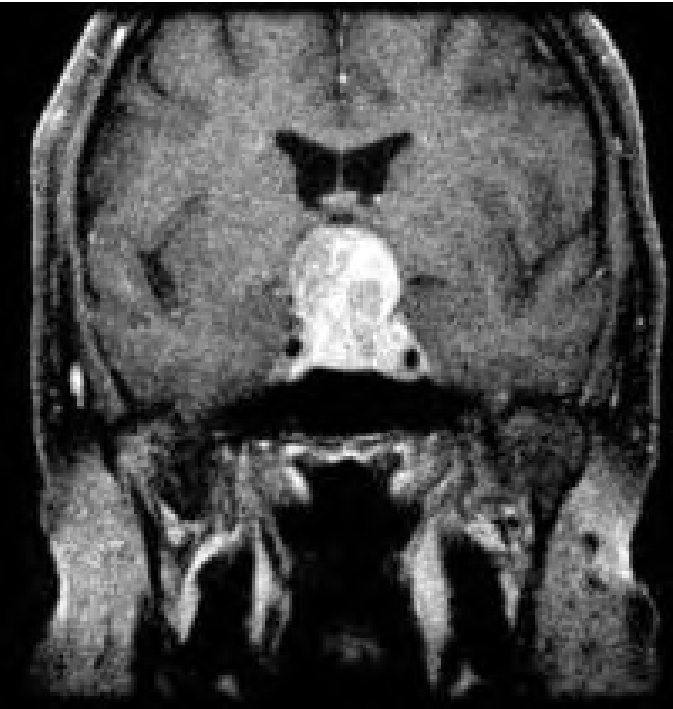
- Glioma tumor
- Meningioma tumor
- Pituitary tumor
- No tumor

<https://www.kaggle.com/datasets/sartajbhuvaji/brain-tumor-classification-mri>

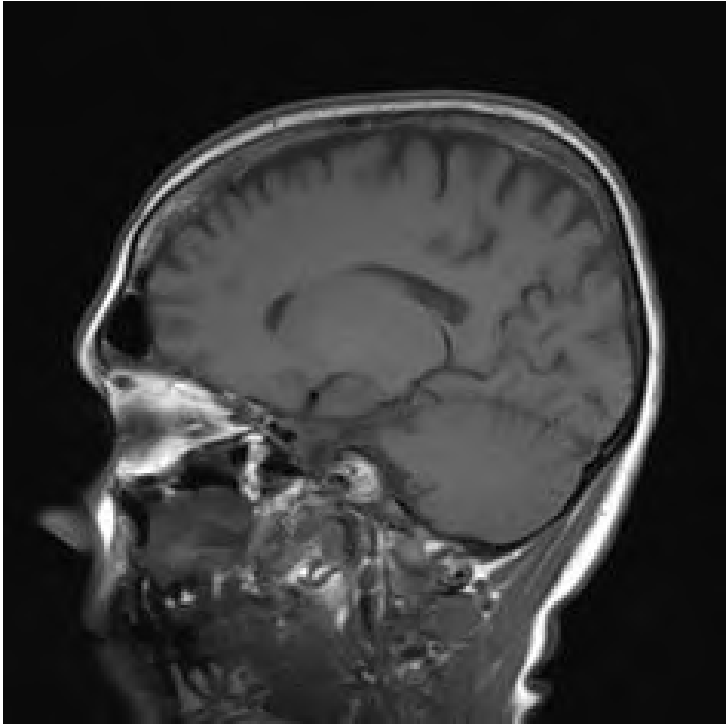




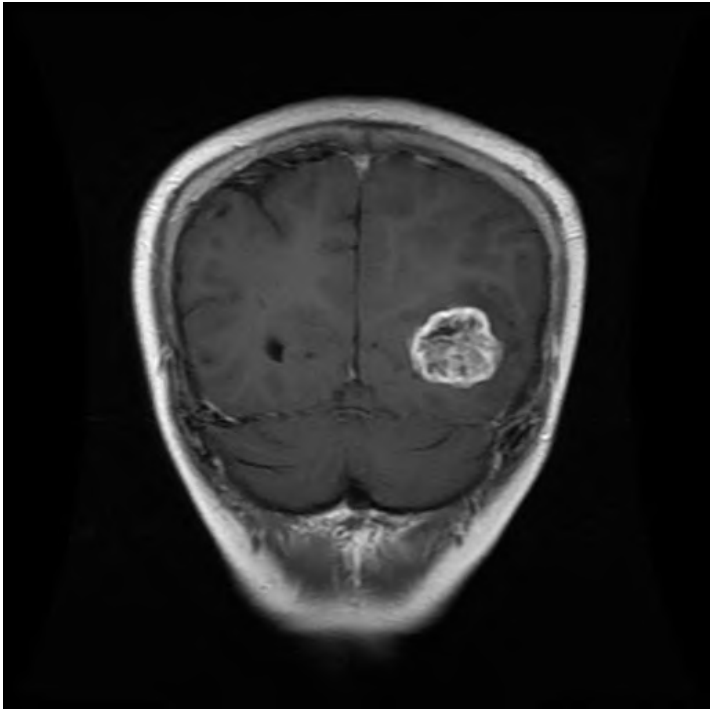
Meningioma_tumor



Pituitary_tumor



No_tumor



Glioma_tumor



In our project we used only two types of data :-

1.No tumor

2.Pituitary tumor.

because the running of code takes a lot of time.



Libraries:

1. we have used Opencv library to represent the photos with arrays and make reshape to them.
2. OS library to get the path file directories .
3. matplotlib library to show the photos with tumor or not.
4. sklearn to split the data to test and train and to make classification using the support vector machine.
5. pickle which is a library for saving models



We also have implemented this project with a web application.

We have used in front-end: HTML , CSS and jQuery.

We have used in back-end a framework called Flask which is a library exist in python.

We took the saved model and get the data from it.

The project idea is:

The user will enter any photo of the brain and it will predict if it is tumor or not.



Thank you