**TITLE: ENHACING MEDICAL DIAGNOSTICS THROUGH MULTI-MODAL IMAGE FUSION**

**TEAM NUMBER: CSM11**

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**GITHUB LINK:**

**ABOUT PROJECT:**

Aim of the project: To improve accuracy and efficiency of brain tumour diagnosis through automated integration of multi-modal image fusion and tumour classification.

Modalities used in the project: CT and MRI scans are used as using both provides complementary information about tumour location, size, type etc.

* MRI scans - provide clear visualization of soft tissue and tumors
* CT scans - reveal finer detail of brain structure and anomalies

Objectives of the project: The project has been divided into 4 stages:

* Image Registration - Aligns the images in the same coordinate system
* Image Fusion - Uses wavelet transform to construct a unified image
* Image Segmentation - Segments the tumour region from the fused brain image and also provide shape and location of tumour.
* Tumour classification - Tells whether the tumour is benign or malignant

**PROGRESS OF THE PROJECT:**

* Collected the dataset containing both MRI and CT scans of brain.
* Worked the CNN model which will be suitable for the project.
* Work on the image registration process is going on.

**Difficulties in the project:**

* Need assistance in image registration process as alignment issues are being raised during the process and also on fusing the images on same coordinates
* Need guidance in identification of tumour and its segmentation
* Need guidance in classifying the tumour types as benign and malignant