**1138 – Proposed Work Details**

**Step 1:**

Initially the Multimodel MRI Brain tumor BraTS20\_Training Dataset is Extracted here.

# Image data descriptions

All BraTS multimodal scans are available as NIfTI files (.nii.gz) -> commonly used medical imaging format to store brain imagin data obtained using MRI and describe different MRI settings

1. **T1**: T1-weighted, native image, sagittal or axial 2D acquisitions, with 1–6 mm slice thickness.
2. **T1c**: T1-weighted, contrast-enhanced (Gadolinium) image, with 3D acquisition and 1 mm isotropic voxel size for most patients.
3. **T2**: T2-weighted image, axial 2D acquisition, with 2–6 mm slice thickness.
4. **FLAIR**: T2-weighted FLAIR image, axial, coronal, or sagittal 2D acquisitions, 2–6 mm slice thickness.

Data were acquired with different clinical protocols and various scanners from multiple (n=19) institutions.

**Step 2:** Pre processing all the imaging datasets have been segmented manually, by one to four raters, following the same annotation protocol, and their annotations were approved by experienced neuro-radiologists. Annotations comprise the GD-enhancing tumor (ET — label 4), the peritumoral edema (ED — label 2), and the necrotic and non-enhancing tumor core (NCR/NET — label 1), as described both in the BraTS20 TMI paper and in the latest BraTS summarizing paper. The provided data are distributed after their pre-processing, i.e., co-registered to the same anatomical template, interpolated to the same resolution (1 mm^3) and skull-stripped.

Pre-Processing :

1. **Show whole nifti data -> print each slice from 3d data**
2. **Show segment of tumor for each above slice**
3. **Gif representation of slices in 3D volume**
4. **Show segments of tumor using different effects**

**Step 3:** Further Novel Segmentation will be done by cascaded VNet with attention.

**Step 4:** Classification will be performed and metrics such as F1score, Accuracy, precision etc will be evaluated.

# Step 5: Comparison will be done with 3D UNet.