
ELL888: Assignment 1

January 24, 2019

Design a binary classifier to detect abnormality in brain MRI scans.

Training Set:

The training dataset is same as in BRATS2015 challenge which is available for download in this link. The images are stored in ".mha" format as signed 16-bit integers, but only positive values are used. **simpleitk** package may be used to read these image data.

The training data also includes ground truth in a separate .mha file.

A sample slice having visible abnormality along with the ground truth is shown below.

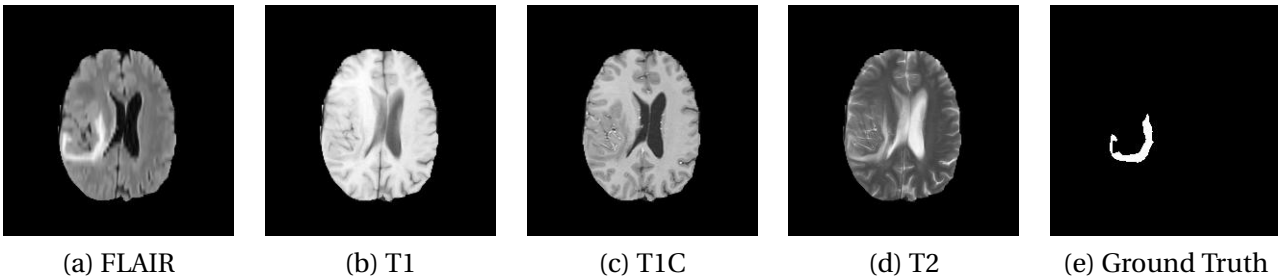


Figure 0.1: Slice 95 of HGG PAT0001

A sample slice having no abnormality visible along with the ground truth is shown below.

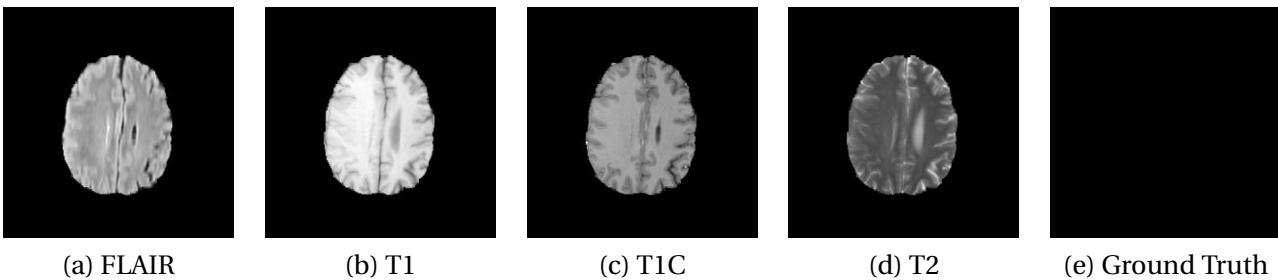


Figure 0.2: Slice 105 of HGG PAT0001

Problem Statement:

Although in the original challenge the task was Multimodal Brain Tumor Segmentation (necrosis, edema, non-enhancing tumor, enhancing tumor, everything else). In this assignment you are required to design a binary classifier to distinguish between normal and abnormal brain images.

Evaluation:

For evaluation purpose of your model a private test set will be used instead of BRATS2015 test set. Grades will be awarded based on the performance of your model on this test data set.