BRAIN TUMOR CLASSIFICATION

(PART 1 - IMPLEMENTATION_Labor_Division)

ELYAS IRANKHAH

- Ensemble Learning implementation part
- Explored some literature reviews, especifically, for our dataset project and ensemble learning topics
- Got familiar to deeply understand in implementation of DenseNet & VGG models
- Attempted to get the highest performance of the integration one
- Evaluated the results of combination by generating the results properly
- Found out the limitations and future works to make it more optimized: Identified how to improve the limitations

JASH GANDHI

- Did some research on how Data Preprocessing is usually done in case of MRI image data
- Looked into some similar projects which also use MRI or possibly image dataset. Ultimately decide to it similar to the Data Preprocessing done in the Skin Lesion Classification HW did in this course
- Imported and Read the images from the dataset.
- Read the images in Grayscale using OpenCV, Resized them to 224x224 dimensions and Normalized them between the values of 0 and 1.
- Performed the above step to have consistency across all images and to make sure they're all uniform for the model to train/test upon.
- Apart from this, Extracted different unique image classes for both training and test sets.
- Verified the size of the training and test dataset and picked and printed some random images and which class they belong to so we can all see what kind of images we have and how they look.
- Also plotted a pie chart to visualize how the class distribution looks like in the dataset.

- Counted the image size for both training and Test datasets class wise and plotted a bar graph to visualize the distribution of image sizes.

NAGA SAI TEJASWI GANDU

- Conducted thorough research on VGGNet architecture through academic papers and existing codes.
- Identified VGGNet-19 as the optimal model for our project, considering its potential for improved results and due to relatively less explorationin past research.
- Determined the ideal number of epochs to maximize performance.
- Implemented the method, added new functionality that is different from past researches.
- Error Debugging
- Generated and analyzed results to validate the effectiveness of the approach.
- Identified limitations and outlined possibilities for future work.

RUDRAM VYAS

- Conducted Literature Review related to DenseNet
- Explored available codes and studied their implementation
- Implemented DenseNet for our Project
  - Implemented methods different from previous work
  - Chose the appropriate layers to use
  - Implemented the required functions
  - Error Debugging
  - Determined the number of epochs required
- Generated and results
- Analyzed the results