**CIS 4780 - Ongoing Log/Report**

Progress Log:

* Installed yoloV5
* Resnet50 is already included in PyTorch, but since it is pre-trained, we will have to look into optimizing the weights and other hyperparameters, in line with our data.

<https://pytorch.org/vision/main/models/generated/torchvision.models.resnet50.html#torchvision.models.resnet50>

* vgg16 is already included in PyTorch, but since it is pre-trained, we will have to look into optimizing the weights and other hyperparameters, in line with our data.

<https://pytorch.org/vision/main/models/generated/torchvision.models.vgg16.html#torchvision.models.vgg16>

* INCEPTION\_V3 is already included in PyTorch, but since it is pre-trained, we will have to look into optimizing the weights and other hyperparameters, in line with our data.

<https://pytorch.org/vision/main/models/generated/torchvision.models.inception_v3.html#torchvision.models.inception_v3>

* The dataset we are using is sourced from
  + <https://www.kaggle.com/datasets/navoneel/brain-mri-images-for-brain-tumor-detection>
  + There are a total of 253 images. 155 tumor, 98 - no tumor
  + The sizes of the images are not consistent, and neither is the framing. Hence some preprocessing is required. Furthermore, each model has different requirements
  + Folder name for data set is MRI

* Leveraging Transfer learning to fit the above models to our use case

Refer to this article to get some guidance:

* <https://medium.com/@wularitz/image-classifier-for-dish-classification-using-resnet50-with-pytorch-5d11c02067b5>

<https://medium.com/@arnabroy02/brain-tumor-classification-using-resnet50-3f8648958799>

The paper/article we are closely following:

* <https://www.mdpi.com/1999-4893/16/4/176>

More references in Arnab’s bookmarks.