

MAIS 202 - PROJECT DELIVERABLE 1

1. Dataset

My final project would consist of detecting/classifying demented vs non-demented brain from this Alzheimer MRI dataset:

<https://www.kaggle.com/legendahmed/alzheimermridataset?>, where the image provided are classified into 4 groups: mild demented (717 files), moderate demented (52) files, non demented (2560 files) and very mild demented (1792 files).

2. Methodology

a. Data processing

As we are trying to classify if the image corresponds to a patient with Alzheimer or not, we can create a data frame, where there are 2 columns: one label corresponds demented and the other, nondemented.

b. Machine Learning model

This is a classification problem; thus, I would pick a classification algorithm. Since we haven't talked about classification models, I would select one when the course will cover them.

c. Evaluation Metric: Confusion matrix and accuracy/precision-recall/logistic

d. Final conceptualization

I would create a webpage, where the user would upload a picture or use examples pictures of the brain to detect the presence of this neurodegeneration disease using Computer Vision.

Hopefully, this model will have a test accuracy of 85%+.