Week 2 – Project definition

**1. What general topic do you want to work on?**

Machine learning study on a longitudinal dataset.

**2. What skills do you want to learn, working on this project?**

Learn how to use machine learning and validate the model.

**3. What resources do you want to work on?**

Open Access Series of Imaging Studies (OASIS): Longitudinal MRI Data in Nondemented and Demented Older Adults.

**4. What objectives do you want to achieve with the project?**

Predict onset of disease, specifically dementia.

**5. What will be the outcome(s) of your project?**

An article publication and short presentation.

**Research statement:**

The aim of this study is to develop a machine learning model to predict dementia progression using a longitudinal MRI dementia dataset. By extracting and analyzing features from T1-weighted MRI scans, we aim to identify early biomarkers and neurodegenerative patterns. The expected outcomes include an accurate predictive model for early dementia detection and identification of critical MRI biomarkers, which will enhance diagnosis and treatment strategies for dementia.