Explanation of all the files:

1 – Processa_dataset_inicial.ipynb: Pre-processing of the data extracted from the ADNI in order to create a reliable set of scans for the study.

2 – Check_scans&masks.ipynb: View all scans and their masks to confirm previous processing.

3 – processa_features_scans.ipynb: Extraction and processing of features from whole-brain scans.

4 – hipocamp_features_extract.ipynb: Extraction of features from the hippocampus.

4.1 – entorhinal_features_extract.ipynb: Extraction of entorhinal features.

4.2 – occipital_features_extract.ipynb: Extraction of lateraloccipital features.

5 – Processa_features_segments.ipynb: Processing of all the features extracted above, in the different zones.

7 – Histogram_Volum_Plots.ipynb: Compare the hippocampal volumes given by freesurfer with those of the respective features, in order to validate them.

8.0 – XGBOOST_scanCompleto.ipynb; 8.1 – XGBOOST_hipocampo.ipynb; 8.2 – XGBOOST_entorhinal.ipynb; 8.3 –XGBOOST_occipital.ipynb: Apply XGBoost to the data, by cross-validation. Obtain the confusion matrix and Shap-Values and Feature Importance plots - this for each of the regions, where hyperparameters are adjusted for each data set.

Datasets created for use in the models above:

- **A3.DS_Brain.csv:** Whole brain dataset
- **B2.DS_Hipo.csv:** Hippocampus dataset
- **C2.DS_Entorh.csv:** Entorhinal dataset
- **D2.DS_Occip.csv:** LateralOccipital dataset