Inferential statistics – Capstone 1 project

This section investigated differences between patients that convert to AD at some point in the study from those that do not. This was investigated in groups with baseline diagnoses of cognitively normal, early MCI, and late MCI.

For the different measures of interest, an omnibus 2x3 ANOVA model was run to identify whether there were between converts and non-converts. Planned post-hoc tests using Tukey’s HSD were done to compare within diagnosis group converters from non-converters.

The primary outcome of this was that the cognitive assessments and structural MRI data were most consistently able to differentiate converters. Some other measures such as PET and DTI were able as well, primarily in the MCI groups.

Correlations between the cognitive assessments were identified as potential features of interest. These were investigated and difference scores between the CDRSB and ADAS13, as well as the MMSE and MOCA were calculated and compared. These difference scores appear to be useful in differentiating converts as well and will be included in the forecasting model.

This analysis is available in section 2.3 of the eda.ipynb in the repository at

<https://github.com/A2ed/springboard_data_science/tree/master/capstone_1_mri>