

XIV PMT meeting on the EADC-ADNI Harmonization of Protocols for Hippocampal Segmentation

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Participants:

Giovanni B. Frisoni	(GBF)	– IRCCS S. Giovanni di Dio - Fatebenefratelli, BS, Italy
Marina Boccardi	(MB)	– IRCCS S. Giovanni di Dio - Fatebenefratelli, BS, Italy
Martina Bocchetta	(MBocch)	– IRCCS S. Giovanni di Dio - Fatebenefratelli, BS, Italy
Simon Duchesne	(SD)	– Laval University, Québec City, Canada
Clifford R. Jack	(CRJ)	– Mayo Clinic, Rochester, MN, USA
Lennart Thurfjell	(LT)	– GE

NAÏVE TRACER TRAINING PHASE UPDATE

The Naïve tracers are currently segmenting the training set of benchmark images. This phase was divided into 3 rounds and after the completion of the first 2 rounds, the tracer receive a visual and statistical feedback (from the platform) and a verbal feedback provided by MB. This latter is a slide by slide feedback given to clear up the visual feedback of the platform, which in some particular cases may be ambiguously interpreted. The segmentation performance improved after Round II and the corrections were generalized to new images, except for very atrophic subject.

HYPOTHESIS FOR CERTIFICATION CRITERIA

Inferred by naïve tracers performance and generated versus quality check, the qualification thresholds may be at least Dice ≥ 90 and Jaccard ≥ 80 . We will fix them after the completion of the third round of training.

Jaccard < 70 denotes major problems in hippocampal segmentation

Jaccard < 80 denotes incomplete compliance with the Harmonized Protocol criteria

We would add a figure including visual feedbacks associated with these statistics/thresholds.

FEEDBACK FROM NAÏVE TRACERS

The Naïve tracers provided some feedbacks regarding the platform and the Harmonized Protocol. They asked for more interactive feedbacks (video for segmentations) and more figures in the Harmonized Protocol for some specific boundaries.

The same “training” images will be used for training of human tracers and automated algorithms, and the same “test” images for the qualification test of both. The training images will not be used for the qualification test, since “results” have been released.

PROJECT EXPANSION TO ENLARGE THE SET OF BENCHMARK IMAGES

We will send again the proposal to LT and get in contact with Maria Carrillo for asking the help of the AA in raising funds. CJ suggests also to increase the frequency of call. The proposal may specify the embargo/priority of access to hippocampal labels for a given period of time to funding companies. After this period, the labels will be available for everybody.

In the case we are not able to collect enough money for enlarging the set of benchmark images, we may revise the design of the Validation sample of hippocampi, trying to reduce some variables (variability due to rater or disease progression) in favor of a higher number of subjects.