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Preparatory work for the Master Thesis

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Machine learning for analysis of EEG signals in neurosciences.

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Orientation of the master thesis

What has been done :

- Week 18/02 to 24/02: Articles reading for more specific approach of the preparatory work.
- Orientation: About image classification/object recognition via EEG.
- Week 25/02 to 03/03: More specific articles about images treatment of the brain & with EEG.

Plan of the preparatory work

- Introduction
- State of the art
- Application/Reproduction of results
- Conclusion

Plan of the preparatory work

State of the art:

- Description of what EEG is.
- Path of the stimulus in the brain when looking at an image + Timings. What are the regions of the brain activated for object recognition.
- What methods/algorithms/pipelines used for EEG signals processing and image classification.

Plan of the preparatory work

Application:

- Application of an pipeline/algorithm on actual data.
- Reproduction of the results
- Discussion/Comparison

Dataset of EEG signals of seeing images: MindBigData[1]
Based on images of the dataset ImageNet[2]

[1] http://www.mindbigdata.com/opendb/imagenet.html
[2] http://www.image-net.org/

Planning

For the following month:

- Keep reading articles and have as much information as possible.
- Begin the report writing, making a draft.