WEEK-1 REPORT : SAGNIK CHATTERJEE

Date : Jan 17,2021

This is the weekly report for submission for my project work under Pooja Prabhu maam on the topic :- “Identification of Epileptic Abnormalities”.

Overview:

In this week ,I covered the basics of Python programming and read the paper on “Deep Classification of Epileptic Signals” , “Universal automated high frequency oscillation detector for real-time,long term EEG”
and familiarized myself with the MNE tools.https://mne.tools and Pytorch . https://pytorch.org

Work Completed:

1. Core Python Programming : Revised basic concepts like classes , functions ,generators , initializers , decorators and inheritance in Python.
2. Programming sample datasets using MNE tools and understanding the the functions used in them and how are they working.
3. Understood the architecture of the experiment and the various data inputs and the values that will be considered, and the measurement policy.
4. Familiarised myself with Pytorch tools and how to use them. Pytorch is a library for deep learning and can be will be useful in writing the code during implementation as various algorithms (like RESNET and Deep Boltzmann Machine etc. are already implemented in them and can be used directly on the data passed.)
5. Understood what is the quality HFO(High Frequency Oscillation) that will be measured and how are they being collected and what on what parameters are they being measured on.This is done from the paper “Universal automated high frequency oscillation detector for real-time ,long term EEG”

Work To Be Completed:

1. To properly understand the working of the analysis part in the Ripple Detection Algorithm in the “Automatic detection and visualisation of MEG ripple oscillations in epilepsy” paper.

2. DIfferentiating factors in HFO properties like power ,duration and spectral content in epileptogenic regions was not understood properly and also how are we differentiating between the clinical utility of different HFO subtypes.

Notes:
The scripts are uploaded in the scripts section under week1 folder.