NLEEG - User Manual

To begin using the NLEEG software you must compile the program using the console window. NLEEG is written in python, so, to do this, in the console type “python main.py” in the NLEEG directory. This tells the console to use python to compile our main.py text document, which will run the commands necessary to begin the software.

The software should now load up. The large white window is the main plotter, and the smaller window on the right is the frequency domain plotter. The buttons along the bottom will load the data, and process it with specific algorithms.

To load up some data click the button in the bottom left hand corner and select a .csv file containing EEG data.

The two algorithms pre-loaded onto this software are FFT (Fours Fourier Transform) and the Hilbert Transform. Without going into too much detail, FFT takes in a time series such as EEG data, and then plots it into the frequency domain, displaying prevalent frequencies of the brain wave. The Hilbert Transform phase shifts a signal by 90 degrees in the frequency domain, thus creating complex numbers for each time point, then plots out the imaginary number component of that complex number in the time domain.

NLEEG encourages user to implement their own user algorithms onto their data. To load your own algorithm and apply it to data click the “…” button in the right hand corner. Input your code into the text editor and click the button to plot the data with your algorithm applied.

NLEEG is an open source educational EEG & python learning project available on Github. Feel free to amend the source code and experiment with it to advance your knowledge.