Machine Learning for Brain Computer Interfacing

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Brain Computer Interfacing (BCI) aims at making use of brain signals for e.g. the control of objects, spelling, gaming and so on. This talk will first provide a very brief overview of Brain Computer Interfacing from a machine learning and signal processing perspective. In particular it shows the wealth, the complexity and the difficulties of the data available, a truely enormous challenge: In real-time a multi-variate very strongly noise contaminated data stream is to be processed and neuroelectric activities are to be accurately differentiated.

Finally, we report in more details about the Berlin Brain Computer (BBCI) Interface that is based on EEG signals and take the audience all the way from the measured signal, the preprocessing and filtering, the classification to the respective application (e.g. gaming).

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