

A Description of the Algorithm Used for Classifying Dataset V (BCI COMPETITION III): Using Raw Data

Ehsan Arbabi ¹ and Mohammad Bagher Shamsollahi ²

Electrical Engineering Department

Sharif University of Technology

¹ arbabi@mehr.sharif.edu , ² mbshams@sharif.edu

First of all the data were down sampled (from 512Hz to 128Hz) and also filtered by a band pass filter (0.5-45Hz). Then we divided the data to one second overlapping segments (with 0.5 second of overlapping). In the next step several features (including: Statistical features, features related to Parametric Models, Coefficient of different Transforming functions and ...) were extracted from the raw data. Then the extracted features were ranked according to their possible ability in classification by using a combination of different classifier-independent measures. By applying the Bayesian classifier and considering the percentage of correct classification (on an evaluating data set) as an evaluation measure, we selected fewer features from the high ranked features. Finally by using the Bayesian classifiers with its selected effective features, the labels related to testing data were found.