CLASSIFICATION OF CHAOTIC SIGNALS USING HMM CLASSIFIERS: EEG−BASED MENTAL TASK CLASSIFICATION (MonAmOR2)

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Abstract :

Mental task classification using brain signals, mostly electroencephalogram (EEG), is an approach to understand human brain functions. As EEG seems to be chaotic, it is important to verify the capability of probabilistic and statistical processing tools (such as HMM−based classifiers) in working with chaotic signals. At first, we study the performance of HMM's in classification of different classes of synthetically generated chaotic signals. Then performance of such classifiers in EEG−based mental task classification is studied. Results show good performance in both cases.

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