Abstract

Brain Computer Interface (BCI) is an emerging research area which tries to capture the motor imagery thought process from brain using Electro-encephalogram (EEG) and process the data using signal processing techniques to classify the motor imagery thought process. Physically impaired people without any muscular activity can carry on their day to day operation with the use of BCI as it can be used to control devices including computers using the thoughts of the person. Devices such as wheelchair have been successfully connected to BCI system and these devices can be controlled using thought. In this paper, it is proposed to investigate EEG signals, extract features of motor imagery in the frequency domain using Hilbert transform, compute the maximum and minimum energies and classify the brain signal activity using pattern recognition techniques.

References

Event Evoked Signal Classification in Frequency Domain for Brain Computer Interface

- Lei Wang; Guizhi Xu; Jiang Wang; Shuo Yang; Weili Yan; "Motor Imagery BCI Research Based on Hilbert-Huang Transform and Genetic Algorithm," Bioinformatics and Biomedical Engineering, May 2011 5th international conference.

Index Terms
Keywords

Brain Computer Interface (bci)  Fast Hilbert Transform  Support Vector Machine (svm)
Pattern Recognition