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EEG Affective Modelling for Dysphoria Understanding (Conference Paper)

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Abstract

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Dysphoria is a state of dissatisfaction, restlessness or fidgeting. It is a state of feeling unwell in relation to mental and emotional discomfort. If this state is not carefully handled, it may lead to depression, anxiety, and stress. To date, 21-item instruments of Depression, Anxiety and Stress Scale (DASS) is employed to measure dysphoria . Although DASS provides a quantitative assessment of the human affective state, it is subjected to interpretation. To complicate matters, pre-cursor emotion and pre-emotion of the participants can result in biasness of the DASS report. Hence, a more direct method in measuring human affective state by analyzing the brain pattern is proposed. The approach can also address the dynamic affective state which is needed in detecting dysphoria . Brain waves pattern are collected using the electroencephalogram (EEG) device and used as the input to analyze the underlying emotion. In this paper, relevant features were extracted using Mel-frequency cepstral coefficients (MFCC) and classified with Multi-Layer Perceptron (MLP). The experimental results show potential of differentiating between positive and negative emotion with comparable accuracy. Subsequently, it is envisaged that the proposed model can be extended as a tool that can be used to measure stress and anxiety in work places and education institutions. © 2018 IEEE.

SciVal Topic Prominence

Topic: Anger | Depression | major depressive

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