An Anthology of Applied Computer Technologies

Zulkefli Muhammed Yusof
M.M Hafizur Rahman

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ABSTRACT

In psychology, emotion is considered a response to stimuli that involves characteristic physiological changes such as increase in pulse rate, rise in body temperature, greater or less activity of certain glands, and change in rate of breathing. However, emotions are considered as difficult and confused to study because it had no basic to rely on. Thus, in our project four basic emotions (calm, fear, happy and sad) were detecting using Electroencephalography (EEG) machine. The EEG is a record of oscillations of brain electric potential recorder from electrodes on human scalp. Mel-Frequency Cepstral Coefficient (MFCC) is applied to extract features from the brain signals (emotions). To verify and identify the different basic emotions, we have used the Multi Layer Perceptron (MLP) as a classifier. Experimental results show the potential of using these techniques to detect and analyze the four basic emotions.

16.1 INTRODUCTION

In the common situation when someone feels sad, he or she would normally cry; when he is afraid, a person would tremble; when angry, the person's heart beats become faster and the face definitely turns red. It is all the phenomena of emotions. Emotions have to be interpreted correctly for the true understanding.