Estimating Range and Relationship of EEG Frequency Bands for Emotion Recognition

Abstract

EEG based emotion recognition is the most significant technique to identify human emotions effectively. An attempt is made to identify range of frequency bands for each discrete emotion using frequency band analysis of EEG signals. Each frequency band is associated with relative power values. These relative power values assist to estimate range for frequency bands. The results are evaluated for absolute and relative power values of EEG signal in each frequency band. Further, Bayesian network is constructed to represent relationship between frequency bands and emotion. As a result, theta and alpha bands found to be more active than beta and gamma.

References


Index Terms

Computer Science Signal Processing

Keywords

Electroencephalogram (EEG), Power Spectral Density (PSD), absolute and relative power,
Bayesian network