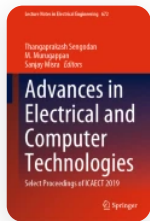


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Evaluation of Emotion Elicitation for Patients With Autistic Spectrum Disorder Combined With Cerebral Palsy

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Abstract

The purpose of the work is to find out efficient stimuli to evoke emotions in children having autistic spectrum disorder combined with cerebral palsy. Experiment was conducted in the forenoon session to record the ECG signal of such children. The children were instructed to

focus on the audio/video played as part of the process. The objective is to elicit different emotions in autistic spectrum disorder combined cerebral palsy patients. Children of age group 4–15 (13 children) were considered. A psychologist by clinical test can identify the elicited emotions. The emotions elicited in patients whose emotions are not explicitly conveyed can be included for analysis. Important features like heart rate RR interval, low- and high-frequency features obtained using discrete wavelet transform (DWT) were used for the analysis. The different stimuli based on audio clips and video clips were compared, and their performance was evaluated. Cerebral palsy children exposed to the above elicitation methods were observed to have less active autonomous nervous system compared to normal ones. Emotions in normal ones and autism spectrum disorder with cerebral palsy are being compared. A total of 23 normal persons of age ranging from 22 to 25 were considered for the experiment. The signals for everyone were recorded using Powerlab15T and db7 wavelet analysis done. SVM classifier classifies it as happy/sad. Audio is found to have better specificity for differentially abled children.

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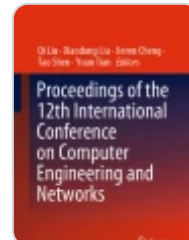
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Compliance of Ethical Standards

Conflicts of Interest

The authors declare that they have no conflict of interest

Ethical Consideration

Ethical approval was obtained from NIPMR kallettumkara regarding the data acquisition FileNo. NIPMR/SJD/gen/2019.

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