

Entertainment (Music) Suggestion for Handicap Dumb (Speechless) People using EEG Signal

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Abstract: A mood-based music recommendation system that uses Brainwaves is the latest way to recommend music based on people's brainwaves, based on their current mood. The technology records brain wave activity using electroencephalogram (EEG) signals and uses machine learning algorithms to categorize the user's mood. This system provides music recommendations based on the user's mood, which increases listening enjoyment and emotional endurance. The proposed method can revolutionize music recommendation systems, providing a more personalized and natural listening experience. DREAMER and GUINEA BISSAU EEG data is the database used in this research. Both data were obtained by measuring the Emotive EPOC device with 14 channels. After further processing, classification and recommendation, playlists are automatically created and played based on the user's current mood. Both methods provide better performance in terms of computing time compared to existing literature algorithms. The accuracy of the first approach was 94%, and the classification accuracy of the second approach using PCA and SVM was 96.8% and 96% for valence and passion, respectively.

Keywords: EEG, music recommendation, SVM, KNN, PCA, classification, Spotify database

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