EEG SIGNAL ANALYSIS AND CLASSIFICATION OF EMOTIONS AND EPILETIC SEIZURE

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Submitted

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ABSTRACT

Signals from electroencephalography (EEG) are often employed in clinical and academic settings. Applications for EEG signals include tracking levels of alertness and mental activity, examining chronic diseases, and serving as signals for biofeedback or assistive technology. This field's innovations have improved signal processing techniques and given rise to cutting-edge applications including brain-computer interfaces (BCIs) and neuromarketing. The processing of EEG signals in the time, frequency, or spatial domains offers a multidimensional way to interpret brain activity. Using scalp-mounted EEG sensors, electrical activity produced by sizable populationsof neurons in the brain is measured. We can learn information about brain activity in differentcognitive and emotional states as a result.

This thesis presents the detailed analysis and classification of EEG signals on different neurological aswell as emotional conditions that will classify signals of patients with and without epilepsy, including the recognition of different emotional states based on several machine learning methods to classify theEEG's using KNN, SVM etc.