Evaluating Bad and Good EEG Segments Based on Extracted Features: Towards an Automated Understanding of Infant Behavior and Attention

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***Abstract*—The field of brain computer interference has grown rapidly with the purpose of reading a human's mind, generating a certain output, controlling objects with this output and having an automated understanding of human reactions and responses to the surrounding environment. Electroencephalography (EEG) may provide an insight into human behavior and attention. There is a huge need in different fields, e.g. psychology and medical, for an automated approach that helps the psychologist in dealing with the massive amount of data in a sensible period. This research study proposes an approach to extract some features from infant EEG signals and evaluate the effect of the bad or good EEG channels on different EEG segments. The achieved work will provide an insight about the employment of the most suitable features to represent the EEG data. The acquired infant EEG data will be deployed to build an objectively evaluated framework that has the ability to provide an automated understanding of the infants' behavior, underpin the infant specialists in analyzing the infant attentions for stimuli within different environments.**

***Index Terms*— Electroencephalography, Human Behavior, EEG Features, EEG Channels.**