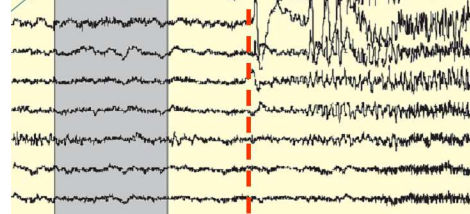


Prediction of Epileptic Seizures



[Thuglas, 2007, wikipedia.org]

Description:

About 50 million people worldwide have epilepsy. It is a common neurological disorder characterized by recurrent seizures. Epilepsy is usually controlled with medication; however, over 30% of people with epilepsy do not have seizure control even with the best available medications. Epilepsy seizures are usually preceded by episodic abnormal electrical activity in the brain. Early detection of such activity can aid in treating the epileptic patients.

Hence, in this project we will use signal processing techniques to extract features from the EEG recordings of epileptic patients. We will then apply machine learning algorithms to classify the features and to predict the seizure onset. The long term goal is to enable early intervention that will prevent the seizure to evolve.

This project includes complex data analysis, adaptation of prediction techniques to the biological EEG data and comparison of the results to baseline algorithms.

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* In association with Rambam Medical Center

Field:

Pattern Recognition, Biological Signals Processing.

Requirements:

Interest in biological systems, background in pattern recognition and random signals, Matlab knowledge