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Report I

Subject:

Pattern Recognition in EEGs to identify neurological diseases

Purpose:

An automated process that can identify neurological diseases (from a set of predefined diseases e.g. strokes, brain tumors, sleep disorders) by analyzing a patient's EEG (electroencephalogram).

Plan:

Documentation on EEG signal processing

"EEG Signal Processing" - Saeid Sanei, J.A. Chamber

"Automated EEG-based diagnosis of neurological diseases" - Hojat Adeli, Samanwoy Ghosh-Dastidar

Analysis of EEG datasets

https://github.com/meagmohit/EEG-Datasets

https://sccn.ucsd.edu/~arno/fam2data/publicly_available_EEG_data.html

Research on possible ML algorithms and Frameworks that can be used to achieve the desired result

(probably Keras)

Research on the topic (some article titles I was able to find related to this)

Classification of EEG Signals Based on Pattern Recognition Approach

Pattern recognition and automatic EEG analysis

Automatic epileptic seizure detection in EEGs based on line length feature and artificial neural networks

Epileptic EEG Detection Using a Multi-view Fuzzy Clustering Algorithm with Multi-medoid

Finding EEG Microstate Classes with Clustering