From EEG to Image: The Graphic Representation of Neural Activity

Martinez Saludes, Ines

The aim of this work is to represent brain activity and, in particular, epileptic seizures by using computer technology. The model provides a visual representation of brain activity, which is much easier to interpret for the general public than an EEG, and can also represent any type of seizure pattern required without needing any medical proof. The work involves the development of a computer model that represents a human brain and its electrical activity. From this, it differentiates normal and epileptiforme electrical activity. The final product is a representation of a true seizure from a patient’s EEG (electroencephalogram). To achieve this, a previous study of the brain and epilepsy was made (by using traditional bibliographic methods and neurological hospital practicum), as well as original data collection about programming. The Netlogo program was used because it allows multiple types of models in a relatively simple and very visual way to be created, thus the encoding model code is written in the Netlogo language.

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