

Successfully developing an AI model that can predict a seizure with an accuracy of 99.6%

Predicting the seizure itself before it happens can be considered a feat in the medical field, and more importantly, this success stems from an AI system.

Recently, two researchers from Louisiana University, USA have successfully developed an artificial intelligence system that can accurately predict seizures before they occur with an accuracy of almost 99, 6%.

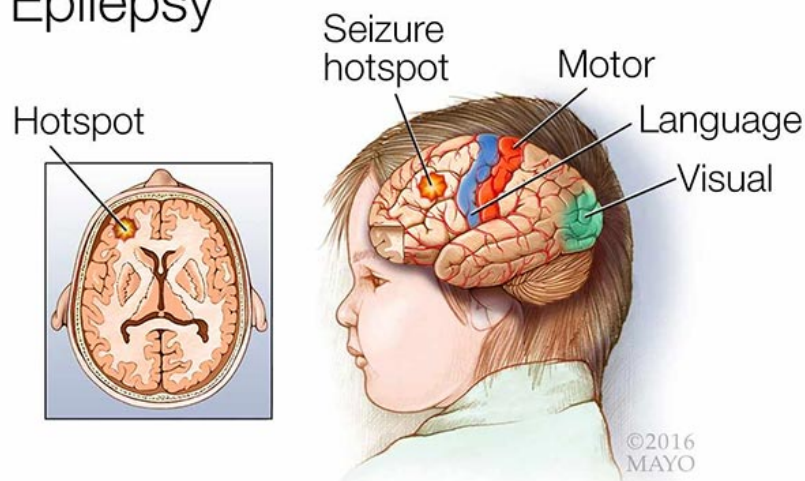
According to estimates by the World Health Organization, up to 4 to 10 in 1,000 adults have experienced epilepsy. In particular, 70% of cases can be mitigated by medication. However, the problem is that the symptoms before the attack are usually unclear, making most patients unable to know when they entered the stage directly before the seizure occurred, while this is a Yellow paragraph to implement interventions to mitigate the situation.

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The performance of such a machine learning system, basically, operates based on the amount of data it is trained. That is, the more data you provide to them during the training, the better the future results. However, things are not so simple in the case of epilepsy. The frequency, time of detection before onset, and the relative intensity of a seizure will vary greatly for each individual subject. For example, in the case of training an AI system that identifies animals, experts only need to train AI by providing training data with pictures of animals, as much as possible. But with epilepsy, it's different, you can't use the general purpose training data set to create a seizure detection system for each patient.

To solve this problem, the researchers decided to use the data of each patient's brain EEG scans for a long time, then analyze and summarize the baseline signals related to it. abnormalities in brain activity before, during and after seizures occur. This training helped the AI ??model of the two scientists achieve almost absolute accuracy, up to 99.6% in pre-seizure diagnosis, with a false detection rate of almost zero.

Epilepsy



The team has now decided to develop appropriate hardware systems and chipsets to support the AI ??model. While development and testing can take a relatively long time, the prospect of a compact, personalized wearable device to support epilepsy treatment is workable.

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