An Edge-Device for Accurate Seizure Detection in the IoT

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Epilepsy is a neurological disorder characterized by recurrent seizures which has devastating impact on human life quality. Almost 1% of the world population is affected by epilepsy necessitating a smart seizure detection system in the IoT framework for remote health monitoring. In this study, an electroencephalography (EEG) based real time seizure detection system has been proposed which utilizes the discrete wavelet transform and deep neural networks. The proposed system was validated using Simulink which reported 99.5% classification accuracy for normal versus ictal EEG. The proposed IoT framework enables remote healthcare service and advances the smart healthcare system considerably.