

# INTELLIGENT SYSTEM FOR DETECTION OF EPILEPTIC SEIZURE USING EEG



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MS Electrical Engineering



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I Ehsan Yousaf (01-244132-029) hereby declare that we have produced the work presented in this thesis, during the scheduled period of study. I also declare that I have not taken any material from any source except referred to wherever due that amount of plagiarism is within acceptable range. If a violation of HEC rules on research has occurred in this thesis, I shall be liable to punishable action under the plagiarism rules of the HEC.

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## **ABSTRACT**

IN a Human Brain the seizures are identified as abrupt flows of absorbing commotions in the scalp that causes an influence to the pretentious individual to perform unsure actions as abnormal state for a certain interval of time that is usually a short period of time. A humanoid brain creates electrical signals which function as a vital sign in tolerating the degree of abnormality. In countless cases, result shows the behavior of a individual as strangely. The material limited in motion of charge is chronicled by a device that is capable of extracting the most restrained details of the brain signaling activities from the electrical waves that are generated inside human mind. Generally, indications from the stratagem are understood by the neurotically qualified professionals that are major in detection of Epilepsy however their recognition is liable to faults that demonstrates to act as deadly incident trending in certain cases. The study in detection of Epileptic seizures offers an independent method, accomplished of sensing incidence of seizures inside human brain, deprived of having assistance of any professional.

The projected scheme comprises of following phases i.e. pre-processing, where the data is organized in an orderly manner and noise is removed, trailed by dissimilar period of time and frequency domain features extracted from the EEG tapes of a wide - range of epileptic patients, suffering with short, but random intervals of variable seizure intensity episodes. The scheme formerly accomplishes a procedure of selecting a feature, and here finest feature set is regulated, and at the end is used for classification of EEG signals as normal or abnormal. The proposed system is tested on a publicly accessible dataset and by results it has achieved a middling accuracy of 86.73%.