# ABSTRACT

Epilepsy is a chronic, non-communicable disease that affects parts of the brain of all ages. It is characterized by repeated seizures, which are brief stages of involuntary movements that may involve parts of the body or the entire body and are sometimes accompanied by loss of consciousness and control over the functions of other body parts (including sight, hearing and taste) and mood Seizure stages are differentiated based on time, such as ictal, pre-ictal, post-ictal, and interictal. epilepsy occurs when there is excessive and abnormal activity of neurons in the cortex of the brain. This disorder has attacked more than 50 million of the world's population.

In this final project, the classification of epilepsy, especially ictal and non-ictal conditions based on EEG signal recordings, was carried out on a dataset from IIT Delhi Hauz Khaz, India. The proposed method is K-Nearest Neighbors classification and finding the feature extraction value using the Hjorth descriptor. The data tested in this research has gone through several stages, namely preprocessing using a Band Pass Filter.

The proposed method is then evaluated for its performance by calculating the accuracy value. The results of the highest accuracy value for determining classifications, especially ictal and pre-ictal, were obtained with a value of 92.3%, which indicates that the proposed method succeeded in determining the classification tested.

**Keywords:** *Epilepsy, Seizures, EEG Signal, Band Pass Filter, Ictal, Pre-ictal, K-Nearest Neighbors, Hjorth descriptor.*