

# Harmful Brain Activity Classification

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- Electroencephalography (EEGs) detect brain signals but are time-consuming to interpret manually.
- This competition aims to automate detection of harmful brain activity.
- Targeted areas: neurocritical care, epilepsy treatment, and drug development.

- Seizures (SZ)
- Generalized Periodic Discharges (GPD)
- Lateralized Periodic Discharges (LPD)
- Lateralized Rhythmic Delta Activity (LRDA)
- Generalized Rhythmic Delta Activity (GRDA)
- “Other” types of harmful brain activity

- EEG Time Series Data: 50-second windows of brain activity.
- Spectrogram Data: Frequency information of brain activity.
- Features derived from both datasets help in classification tasks.

- Relative Band Powers
- Spectral Edge Frequency
- Hjorth Parameters (Mobility and Complexity)
- Statistical Measures: Mean, Standard Deviation, Skewness, Kurtosis.

- Automated EEG analysis saves time and reduces errors.
- Quick and accurate detection of brain damage can improve patient outcomes.
- Significant impact on epilepsy treatment, neurocritical care, and drug development.

- The dataset offers rich information for detecting harmful brain activity.
- Automating harmful brain activity detection can revolutionize neurocritical care.
- Encourages further exploration of EEG and spectrogram data to improve classification models.