

ABSTRACT

The use of drugs outside the doctor's instructions tend to damage nerve function, such as drug abuse. In this case, the drug test is done through recording brain waves using electroencephalography (EEG). In this study, the authors used two different data, namely EEG data as controls (normal/drug-free) and drug users with an age range of 25-40 years, male. The research aims to see the pattern of brain waves based on the amplitude value and classify the EEG waves. Recording was done with eyes open and eyes closed for three minutes using 19 channels and a 10-20 system. Data processing is carried out using FIR (Finite Impulse Response) in the form of a bandpass filter (0.5-70 Hz), artifact removal using the ICA (Independent Component Analysis) method, feature extraction using the FFT (Fast Fourier Transform) method, and EEG classification using the FFT (Fast Fourier Transform) method, and EEG classification using the ANFIS method. The results of the study showed that the FFT results of the control participants (normal/drug-free) had almost the same amplitude values in each part of the brain based on brain waves. While the drug participants have a high amplitude value in the forebrain (frontal) to brain waves. Brain waves are used as a feature for the EEG classification process. The results of the classification related to this obtained an accuracy rate of 97.62 %.

Keywords: drugs, EEG, extraction, classification, ANFIS