

ABSTRACT

Biometrics is a method for identifying a person's identity based on physiological or behavioral characteristics. One of the biometrics that can be used is behavioral methods, one of which is bio-signal, this is done to avoid being easily faked and can be obtained by force or damage. The use of ECG as a biometric is superior to EEG because it is low in complexity and relatively easy to pick up signals.

In the Final Project the ECG sensor (AD8232) was integrated with Arduino, signal acquisition for 15 subjects. The ECG signal is filtered using a Butterworth Low Pass Filter (LPF) to remove high-frequency noise, then the signal will enter the signal decomposition process using the Ensemble Empirical Mode Decomposition (EEMD) and Variational mode decomposition (VMD) methods. Validation using K-Nearest Neighbor (KNN) and train/test split, feature extraction used in the form of statistics. The highest result is 93% using VMD and KNN Manhattan.

Keywords: *Electrocardiogram (ECG), Biometrik, Sensor ECG (AD8232), Ensemble Empirical Mode Decomposition (EEMD), Variational Mode Decomposition (VMD), K-Nearest Neighbor (KNN), train/test split.*