

ABSTRACT

Today biometric study organ as individual recognition is growing. Starting from the object identification through methods also vary. The human ear is known as one of the objects of identification of individuals that was developing. Thus the authors propose a system of recognition of individuals based on biometric ear to the method scale invariant feature transform (SIFT) and artificial neural network (ANN) Backpropagation to boost system performance and accuracy.

In this final project used feature extraction method with SIFT method and combined with Artificial Neural Network Back propagation as its classification method. Where in general the stages to be passed is to perform pre-processing of the dataset obtained, feature extraction, and classification. Commonly of feature extraction in the form of data that can be directly processed by the classifier. Where the data generated from feature extraction can not be directly processed inside the ANN because it is too numerous and requires an additional method of Bag of features (BOF).

As for the present study, the test used a total of 350 photographs of the right ear of 50 individuals with each individual representing the class. The best accuracy of the test is done by observing some test parameters such as front, left, and right practice image, vocab number 30, number of hidden layer 2, and neuron number 10, and up-to-date image image yield 72% accuracy with computation time 0.249196 seconds.

Keywords: Biometric, Scale invariant Feature Transform, Artificial Neural Networks, Back Propagation