

ABSTRACT

Indonesia is one country in Southeast Asia that has 17,508 islands. Geographically, Indonesia is located between the Indian Ocean and Pacific Ocean, between Asia and Australia. Astronomically, Indonesia lies between 6°N - 11°S and 95° - 141°E. Based on the location, Indonesia can be said as a state that has a considerable potential for natural disasters. The high potential is a threat that contains significant risk of loss of life for Indonesian people. Thus, it is necessary to have techniques for disaster victim identification. The most commonly used identification technique is fingerprint analysis, however, as forensic science progressed, Rugae palatine can also be used to identify a person. Rugae palatine is unique and individual and is protected from trauma, because it is located inside the head.

This final assignment, the classification of disaster victim based Rugae Palatine using digital image processing. Steps being taken include: preprocessing, feature extraction, and classification. The method used is Wavelet Transform and K-Nearest Neighbor (K-NN) by using data samples to train as much as 20 images and 24 test images.

The final assignment result is obtained 54.17% accuracy rate by using Discrete Wavelet Transform feature extraction and get 85% accuracy by using additional methods Local Binary Pattern and the computing time 3.63 seconds. It is expected with this system capabilities, can help the dentist especially in the field of forensic odontology to be able to classify people on the basis of sex on Rugae Palatine images.

Keywords: *Rugae Palatine, Wavelet Transform, K-Nearest Neighbor (K-NN).*