

ABSTRACT

Today, many fatal accidents or disasters that led to the deaths. Fast collision or body that burned would complicate the identification process are visible. Therefore, further biometric identification is needed in the form of introducing using the traits that are attached to the body of the victim but not easily destroyed like faces, fingerprints or loss of natural teeth. If on an incident the victim's body does not allow identification through fingerprints or dental examinations, there will be an analysis of biometric identification on the palatal rugae.

Palatal rugae is one part of the oral cavity that has a unique and different pattern in each individual and has characteristics that are not easily destroyed and stable for life. So that digital image processing is carried out by taking the characteristics of the image of palatal rugae whose image quality improvement process is done by Image Registration and Fractal methods to be used as traits and then classified using Decision Tree for the biometric identification process.

The results obtained from this Final Project testing are application programming based on Matlab. Collaboration of registration image, fractal, and decision tree classification method resulted in the highest accuracy value of 88.96% when the fractal parameter n value is 3. So, it can be concluded that the system testing for identifying the pattern of rugae palatine by using image registration as a pre-processing part that improves image conditions proved to be better than a non-image registration system..

Keywords: *Biometrics, Decision Tree, Fractal, Image Registration, Image Processing, Rugae Palatina*