ABSTRACT

Indonesia is a country that has a unique soil contour because there are many highlands and lowlands, in addition Indonesia is also surrounded by volcanic paths so that Indonesia has the potential of natural disasters that can cause many victims. Therefore, to assist the process of identifying disaster victims, medical forensics is used, especially forensic odontology. However, the process of identifying disaster victims mostly has constraints, namely due to the physical condition of the victim who has been damaged. One alternative to facilitate the identification process of disaster victims is to use rugae palatina pattern. Rugae palatina is a component in the oral cavity that has a unique pattern on each individual. In addition, the rugae palatina is protected by trauma and from high temperatures because the position of the rugae palatine is inside the head, protected by teeth, lips, tongue, and fat pads. Thus, the identification process using the rugae palatina pattern has good prospects.

In this study, individual identification using rugae palatine pattern using Active Contour segmentation method and Histogram of Oriented Gradient, and using Conjugate Gradient Backpropagation classification method.

From this research, using some parameters obtained result with accuracy level of 76% and computation time for 205 seconds for Active Contour method, and accuracy of 98.25% and computation time for 48 seconds for Histogram of Oriented Gradient method.

The result of this research can be said that the designed system is able to identify the pattern of rugae palatina in each individual by using Active Contour and Histogram of Oriented Gradient method with Conjugate Gradient Backpropagation classification method.

Keywords: *Rugae Palatine, Active Contour, Histogram of Oriented Gradient, Conjugate Gradient Backpropagation.*