ABSTRACT

In Indonesia there are often happens disasters, accidents, and crimes that cause many casualties. Therefore, Indonesia needs to have techniques to identify individuals who became victims from it. Currently forensics often have difficulty in identifying victims. That's because some body parts of the victims have been damaged by the trauma happened on the body parts that will be identified.

In general, fingerprint method is used as identification technique. But in some conditions, it can not be used because the body parts are easily damaged if something happens. Hence, the identification method was developed on forensic science of Rugae Palatina. It is evident that each individual has a unique Rugae Palatina and is protected from trauma because its in the upper jaw. The purpose of Rugae Palatina forensic development is to facilitate the identification for victims whose their fingerprint are traumatized.

Judging from the problems that occur, therefore forensic science for Rugae Palatina are developed. This final project will compare the results of a system that can identify the pattern of Rugae Palatina from each individual using simple digital image processing method. The process of digital image processing is comparing Watershed method and BLOB method (Binary Large Object) with Lavenberg-Marquardt Backpropagation.

This system uses MATLAB software that will be displayed in the form of GUI (Graphic User Interface). Seen from the method that used, Watershed method gained a better accuracy with 81,75%, meanwhile BLOB method with Lavenberg-Marquardt Backpropagation classification has 73.75% as an accuracy value.

Keywords: *Rugae Palatina, Watershed, BLOB, Levenberg-Marquardt Backprobagation*