ABSTRACT

Indonesia is a country which mostly its people have no birth document, so that it is a quite serious problem. For this reason, we need to do an identification process to determine the estimated age of a someone. There are so many individual identification processes, yet few of them still cannot be able to operate in any situation . The way for identifying someones age forecast is using a tooth because the tooth is a organ which is strong enough, so it woud not be easily eroded or destroyed. For the determination of individuals who are still alive usually use a non-invasive method by identifying the age in the pulp area of the canine tooth by using the image textit dental panoramic radiograph. The reason for the use of pulp for age estimation is because of increasing age volume the pulp will shrink and the reason for using canines because the teeth are slippery and therefore rarely exposed to caries (holes)

In the previous research, a system to identify human age has been made with various methods, but it still has a disadvantage, which is only grouping into 4 classes and the accuracy obtained is still quite small.

Based on those problems, in this Final Project the researcher designed a system that can identify the age in the pulp area of the canine teeth (lower and upper right jaw) from the ages of 5 to 60 years. The data used in this study is the image of a panoramic radiograph. The designed system in this Final Project used Statistical Moments Descriptor method and classification of Artificial Neural Network. The amount of data used are 681 images, which are grouped into 28 classes and each class contained 2 age susceptible. The highest accuracy value obtained from this system is 89,7% by 26,870 seconds of computation time with variations in train parameters = 80 %, validation = 10%, testing = 10%, hidden layer = 3 and hidden neurons = 70. The existence with this system can be a comparison in identifying the age in the dental pulp area using different methods and can be useful for the field of forensic odontology in identifying the age in the dental pulp area

Keywords: *Artificial Neural Network*, *Statistical Moments Descriptor*, Panoramic Radiograph Image