

ABSTRACT

The difficulty of identifying processes for accident victims, mutilations or fingerprinting fires is not found very often. Therefore, with the development of current technology, teeth can be used to assist the identification process of the victim is to detect the age with the digital image processing from the panoramic radiographs. Age is an important thing to know to simplify the identification process.

Human teeth are one of the human organs that can be used for the identification process because it is not easily destroyed. Teeth consist of several layers of email, dentin, pulp and cement. In the lining of the pulp there are nerve fibers and blood vessels yanng channeling to the roots of teeth. Radiograph or x-ray is one of the tools used to aid the diagnosis process, as not all anotomies of the tooth can be seen only by visual examination.

In this final project the method used for panoramic radiograph image processing is Histogram of Oriented Gradient and for classification using Learning Vector Quantization. To support this research, panoramic radiograph samples were obtained through collaboration with the Padjajaran Faculty of Dentistry.

The final result of this final project is using Matlab software with Histogram of Oriented Gradient method and classification of Learning Vector Quantization which is able to identify and classify human age with highest accuracy of 68.33% and lowest computation time is 0.0305 seconds.

Keywords: Panoramic Radiograph, Histogram of Oriented Gradient (HOG), Learning Vector Quantization (LVQ), Age Estimation, Odontology Forensic