ABSTRACT

One solution that can be used to identify individuals by using fingerprint pattern of tooth enamel. Dental enamel itself has properties that are unique and different in every individual. Additionally Dental Enamel coating is highly resistant to heat, resistance to ambient temperatures 1000∘c [8].

The method used in this thesis is Gabor Wavelet. Gabor wavelet itself is a linear filter that is used to detect edges. While the classification used is the K-Nearest Neighbor (K-NN). K-Nearest Neighbor (K-NN) itself is a method to classify the object based on the distance learning data closest to the object.

The results of this thesis is a matlab application that is used to identify an individual with utmost accuracy 95%.

The conclusions of this thesis is that the pattern of the individual tooth enamel can be used for individual identification in humans, the shortcomings of this thesis is the method of taking the picture is still using a very limited therefore only slightly noticeable enamel patterns.

Keywords: *Enamel Gigi*, *Gabor wavelet.* and *K-Nearest Neighbor* (K-NN)