ABSTRACT

The identification of individuals and criminal investigation in Indonesia using the finger prints media. But most of the time, the physical evidence that was already not worth, makes the physical evidence hard to identified. Forensic science of dentistry can help ease in identifying the victims using rugae palatine. Identifying individuals through palatine rugae nowadays have started to develop in, it's just the way that it is still very simple by using a mold of the maxilla and basic measuring instrument.

This final project is design and implementing applications with the image processing techniques that can facilitate the identification and classification of the palatine rugae patterns, with phases conducted include: pre-processing, labeling, feature extraction, and classification. Feature extraction method used is the Discrete Wavelet Transform and K-Nearest Neighbour for classification with 20 training image and 5 test image.

This final project results are obtained 85.95% accuracy rate with the computing time 4.21513 seconds. Expected with the capabilities of this system, can provide a contribution to the Indonesia's forensic odontology world and made a proper standard of accuracy in identifying and classifying rugae palatine patterns in the individual identifications.

Key word: *rugae palatina, discrete wavelet transform, K-NN.*