ABSTRACT

Forensic is a field of science used to assist in the process of identifying individuals and the interests of law enforcement. Many ways to identify an individual, but often because of the physical condition of an individual who is not intact, then do the identification. Forensic dentistry simply can determine a person's identity based on examination of odontology, palatine rugae, finger and lip print pattern. Lip print pattern have distinctive characteristics as well as the comparison of fingerprints.

Lip print pattern have distinctive characteristics as well as the comparison of fingerprint. Lip print pattern have consistent, stable properties throughout life, and will not change either pattern or characteristics. Lip print pattern can be observed since aged 4 months. Sample lip prints was obtained through cooperation with Faculty of Dentistry Padjadjaran University and students of Telkom University.

This final project is intended to facilitate the identification of lip patterns on men and women. Processing of image samples, in this research will be implemented Discrete Wavelet Transform (DWT) as feature extraction method and Support Vector Machine (SVM) as classification method. DWT is generally an image decomposition on the subband image by passing it on highpass and lowpass filters. While SVM is a method that works with the purpose of finding the best hyperplane that separates one class from another class.

The result of the final project is a program that is able to identification based on male and female lip patterns. For the system obtained the best accuracy reaches in the type of SVM One-Against-All (OAA) equal to 70,83% and SVM One-Against-One (OAO) got the best accuracy equal to 54,17%.

Keywords: odontology forensic, lip print pattern, Discrete Wavelet Transform, Support Vector Machine, subband, highpass, lowpass filter, hyperplane