

ABSTRACT

Forensic dentistry or forensic odontology is a branch of dentistry. In 1975 a study of lip prints was carried out in a study of the basic and genetic variation of the ridge pattern of the mucous membrane region of the lips. Lip prints themselves in forensic science can be used to distinguish one individual from another, as well as the function of fingerprints. The shape of a person's lips can be used to identify the authenticity of a person's identity, including gender.

On the lips, there are unique patterns that differ in each individual so as to facilitate identification. Patterns and grooves on the lips are strokes that can be identified through biometric techniques. The biometric technique is a technique to identify based on body parts and human behavior, and in this final project is lip print. Lip prints are owned by every individual that has a consistent nature, remain throughout life, and will not change, either in pattern or characteristics. Gender identification using lip prints is currently being developed, one of which is the android application system.

This research was carried out to design a system that was implemented on an android application by comparing the HOG (Histogram of Oriented Gradients), GLCM (The Gray Level Co-occurrence Matrix) methods, and LBP (The Local Binary Pattern) and using the Support Vector Machine (SVM) classification. With lip sample data used are as many as 60 samples. The results obtained from the study that the best method of gender identification through lip print patterns was obtained using the HOG method. Accuracy is 70% and computation time is 3.62 seconds, the best parameters are Cell Size 4x4, Block Size 2x2, Bin Numbers 9, and linear kernel.

Keywords: Lip print, SVM, Android Apps, Forensic Odontology.