

## ABSTRACT

*Criminal cases in Indonesia are increasing every year. Forensic odontology is a branch of dentistry where identification is carried out in the area of the tooth and its surroundings as a law enforcement requirement, to facilitate the investigation of victims and perpetrators. The process of identifying individuals can be done in various ways, one of which is by using lip print patterns. Because the lip print pattern is permanent and has a unique pattern that is different from one person to another.*

*In this final assignment research, the author designs and analyzes the system of digital image processing applications on lip print patterns using the feature extraction method Histogram of Oriented Gradients (HOG) and classification of Decision Tree which is poured into MATLAB software.*

*The results of this research is a system that is able to identify lip print patterns in human identify. The system produces the best performance with an accuracy of 82.14% with coputation time of 1.5 seconds by using 336 training data and 84 testing data. The results of the system are obtained from the collaboration HOG parameters, Cell Size 4x4, Block Size 2x2 and Bin Numbers 9.*

***Keywords: Forensic Odontology, Identification, lip prints, Histogram of Oriented Gradients, Decision Tree.***