

## **ABSTRACT**

*In Indonesia it often happens, theft, harassment, natural disasters, accidents, crime and cases of missing people. Often times the perpetrators hide their identities to eliminate traces of the crimes that have been committed. Therefore, the police need to prove the identity of the individual. In helping the individual identification process, forensic science is needed. Forensic science is a field of science that is used to identify individuals such as gender, ethnicity, race, and age, which are used to help the process of upholding justice. The lip prints that are owned by an individual have a consistent, stable nature throughout life, and will not change either the pattern or the characteristics.*

*In the Final Project research, a simulation system for identification of lip print patterns in Sundanese and Minangkabau tribes has been designed using digital images based on lip print images. The feature extraction method used is Histogram of Oriented Gradients (HOG) and for classification using the Linear Discriminant Analysis (LDA) method.*

*The results of this Final Project research is a system used to identify Sundanese and Minangkabau tribes which aims to facilitate the forensic team in finding one's identity data by recognizing lip print patterns, based on the Suzuki and Tschuhashi classifications. The system has the highest accuracy with 79.66% with computation time of 250.0025seconds using 174 training image samples and 116 test images of Sundanese and Minangkabau tribes. These results are obtained using the HOG parameters and LDA classification namely Cell Size 2x2, Block Size 8x8 and Bin Numbers 9.*

**Keywords:** *lip prints, lips, HOG, LDA, forensics, Suku, Minangkabau, Sundanese*