# ABSTRACT

Sign language is the language that give priority to visual communication, users use the orientation, shape and movement of the hands, arms, body, and facial expressions to express their thoughts. The speech impaired usually use sign language to overcome their limitations in communication. But communicate like this often complicated and limit communication with other who normally do not understand sign language. To overcome this, efforts are needed to translate sign language into a language easily understood by the public or other person. In this thesis made an application program that can translate sign language SIBI into written language (text).

The system is designed with the help of Matlab 7.8.0. The process done in this application program that was taking the image of the hand via a webcam then pre-processing, feature extraction with Gabor wavelet, and classification using Linear Discriminant Analysis (LDA).

The output of this system is recognition of hand and make the right decision letter for each form of hands that become inputs. The system has been designed have accuracy as much as 83.34% to recognize the 24 static letters of SIBI with a distance of image acquisition is 30 cm with an average computing time 4.31 detik.

Keywords: Sign Language, Translator, Linear Discriminant Analysis, Webcam