

## ***Abstract***

*Sign language recognition can be done if the sign gesture is known. For that information, vision based is more flexible than device based. Geometric feature can be the numeric model from the sign gesture. Hidden Markov Model (HMM) is the type of statistical model that appropriate for the record of variation in sequence data.*

*In this final project, recognition a number of sign in Sistem Isyarat Bahasa Indonesia (SIBI) from video by one individual is done. Image frames obtained from video file. Then, the image is analyzed to detect the region belong to the range of human skin with threshold from the RGB (Red Green Blue) color information. After that region selection is done that consist of face, right hand, and left hand. The geometric information of the hand is known from the hand detection and each of that is represented by feature vector. Each sign is modeled by a single HMM. Then training is done to produce a model database. While for recognition process, evaluation of HMM is done.*

*Tests using ten sign variations showed that the system could achieve 90% accuracy at isolated level by one individual with vary size of codebook and number of states.*

***Keywords:*** *sign language recognition, video, geometric feature, k-means, Hidden Markov Model, SIBI*