Active Lip Localization Based on Lip Movements Recognition Using YCbCr and CIELa*b* Color Space

Thein Thein
theinthein.cmw@gmail.com
University of Computer Studies, Mandalay, UCSM

Kalyar Myo San
Kalyar.myosan@gmail.com
University of Computer Studies, Mandalay, UCSM

Automatic lip reading was used for various purposes for speech training to facilitate hearing and improve speech recognition. Nevertheless, the recognition of the movement of the lips actively passes through research topics with a lot of improvements. Therefore, in order to extract visual information, reliable movements of the lips are required. The major challenge is to localize the movements of the lips accurately because of the many possible movements of the lips and forms of the lips. The accuracy and reliability of speech recognition systems can be better by using visual information from lip movements, and the need for the lip reading system continues to develop for each language. In lip reading system, lip localization is the major step to read the lips for extracting visual information from the video input. This paper presents the lip localization method for Myanmar consonants recognition based on lip movements using the combination of YCbCr and CIELa*b* color space and Moore Neighbor contour tracing algorithm for localization. The proposed method shows how accurate localizing and lip tracking are useful for speech recognition. The experimental results show the automatic lip localizing the lip shape for Myanmar consonants using the only visual information from lip movements which is useful for visual speech of Myanmar languages.