**Abstract**

Sign gesture recognition is an important problem in human computer interaction with signiﬁcant societal influence. However, it is a very complex task, since sign gestures are naturally deformable objects. Gesture recognition contains unsolved problems since last two decades, such as low accuracy or low speed, and despite many proposed methods, no perfect result has been found to explain these unsolved problems. In this paper, we suggest a machine learning approach to translating sign gesture language into text.

In this study, we have introduced self-generated image data set for American sign language (ASL). This dataset was a collection of 36 characters which contain A to Z alphabets and 0 to 9 number digits. The proposed system can recognize static gestures. This system can learn and classify specific sign gesture of any person. We used a convolutional neural network algorithm for classified image to text. We achieved 99.00% accuracy on the alphabet gestures and 100% accuracy on digits.

Keywords: *Sign gestures, Image processing, Machine learning, Conventional neural network.*