

ABSTRACT

Sign language is a kind of communication that makes use of body language, facial emotions, and signals made with the hand as well as other limbs. Deaf persons are the main users of it. It eliminates the barrier between physically disabled persons and normal citizens. In this work, convolutional neural network-based model has been designed for the recognition of sign language. CNN is a deep learning algorithm which eliminates the need of manual feature extraction. It consists of many layers i.e., convolutional layer with activation function, pooling layer, flatten layer, and fully connected layer with activation function. In this work, two model has been developed, with 3 hidden layers and 2 hidden layers. For 3 hidden layers, 75 neurons in 1st layer, 50 neurons in 2nd layer, and 25 neurons in 3rd layer have been used. For 2 hidden layers, 50 neurons in 1st layer and 25 neurons in 2nd layer have been used. The activation function 'Relu' and 'SoftMax' have been used in convolutional layer and fully connected layer respectively. The results depict that model with 3 hidden layers achieved maximum accuracy of 99.98% at 7 epochs, while with 2 hidden layers model achieved accuracy of 99.16% at 14 epochs. The model gives results of precision, f1-score, and recall closer to 1 for every class of symbol which indicates better performance.