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| **Paper** | **Date** | **Device** | **Accuracy** | **Data set** | **Technology** | **Limitations** | **Future work** |
| 1 | Sept 2015 | Android Phone. | Only detect a hand in real time with  100% accuracy when hand is in the upright position on 0° | Isn’t mentioned in this research. | OpenCv that uses Viola-Jones Algorithm , K-Nearest Neighbor Algorithm (KNN) is used for the  Translation of hand signals. | Distance between the camera and the hand should Be less than or equal to 50cm or else doesn’t detect properly. | Identify cues that not only have  The shape of the hand but also combined with facial expressions and posture. |
| 2 | December 2018 | Web camera. | Obtained a staggering success of 98.02% in Detecting the signs in real time. | Bangladeshi Sign Language Image Dataset. | Faster Region-based Convolutional  Neural Network (Faster R-CNN) in detecting objects. | It cannot detect the Bengali sign letter for ‘ই’. It cannot recognize the letters, which have many similarities among their pattern. | Evaluate their model by genuine users  To sort out its limitations and improve the system. |
| 3 | February 2018 | Web Camera. | Achieved a high success rate in  Detecting hand gestures from 2D images. | Isn’t mentioned in this research. | HU moments  , K-Nearest Algorithm (KNN), Euclidean formula. | Cannot represent alphabets and numbers are  Recognized using the planned technique. | This research can be of great use in the future in fields like Robotics ,  Artificial Intelligent , Controlling the computer through hand gestures etc. |
| 4 | November 2016 | Web Camera. | Successfully detects the numbers of fingers shown accurately. | Isn’t mentioned in this research. | Convex Hull algorithm, Opencv,  Morphological operations. | Can’t detect any alphabet or  Other signs. Only detect numbers. | Will try to study about English alphabets  And Marathi alphabets by using contour analysis process. |
| 5 | March 2009 | Digital Camera. | Recognize finger with 95% accuracy. | Isn’t mentioned in this research. | Edge Detection ,  Clipping and Boundary tracing, Canny algorithm, cusp detection. | Detecting the number of fingers  Open and not exactly which finger. So there is room error in detecting the sign. | Sensor based contour analysis can be employed to  Detect which fingers in particular  Are open. |
| 6 | February 2017 | Mobile Video Camera. | Recognize a hand gesture with 94.32%  Accuracy in real time environment. | Isn’t mentioned in this research. | Fingertip finder, eccentricity, elongatedness, pixel segmentation  And rotation. | Although it recognizes all the alphabets , it  Cannot recognize all the numbers. It can recognize 10 numbers only. | Recognition accuracy and also for movement detection of hand for word recognition. |
| 7 | January 2018 | RGB Camera. | Consistently high accuracy rate of  Over 90%. | Image dataset is used consisting of static sign language  Gestures in American Sign Language. | CNN, Machine  Learning and depth data of images. | Although it recognises all the letters except J, it cannot recognise numerals. | Implement their model for other sign languages such as Indian Sign Language. |
| 8 | July 2020 | Different Camera used for different formats and qualities. | Achieved a detection  Accuracy of 49.6% and 92.8% on these datasets with a relative state-of-  The-art improvement of 1.6% and 2.1% | There are many datasets, with different data modalities and  Languages, for hand, face, and human body sign language recognition. | Deep learning,CNN, RNN, LSTM, and GRU, RGB, depth, thermal, skeleton,  Flow information have been used in the models. | While they present the hybrid models in sign language recognition, they did not include the sensor-based models nor the traditional-based models. | They envision a multi-modal integration  From the point of view of face, body, and hand visual cues with  Significantly enhance recognition performance of current models. |
| 9 | February 2018 | 2D Camera. | The proposed method effectively enhances the  Success rate and accelerates the training speed. | Consists of the images for 12 gestures in  60 situations. | ROI segmentation preprocessing, object detection network. | This research doesn’t say anything about the detection of  Alphabets and numbers. It recognizes only a few words. | The future work isn’t explained in this research. |
| 10 | May 2014 | Web Camera. | Claims to have achieved a high accuracy rate  In detecting hand gestures from images | Isn’t mentioned in this research. | Image processing, Eigen values and Eigen vectors, (PCA) algorithm. | Capable of recognizing only 26 gestures  From the Indian Sign Language. | The system will be extended to all the  Phonemes in Marathi signs. |