

Sign Language Recognition

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Abstract: Sign Language is a form of language that enables communication among individuals who are deaf or hard of hearing. Every country has developed its own distinct sign language, including India, which has its own version known as Indian Sign Language (ISL). SLR an essential tool for communication with people who are speech impaired. In this article, we will discuss recent advancements in sign language recognition. We will begin by examining various techniques of gesture recognition and highlighting important methods in recent developments. Additionally, we will focus on the challenges and potential solutions associated with sign language recognition. We propose a method for creating an ISL dataset using a webcam and training a TensorFlow model using transfer learning to develop a real-time Sign Language Recognition system. It is important to learn sign language as it is a reliable and significant way of communicating with people who are hard of hearing or speech impaired without the need for an interpreter.

Keywords: SLR (Sign Language Recognition), Gesture Recognition, ISL (Indian Sign Language)

REFERENCES

- [1]. J. Ekbote and M. Joshi. "Indian sign language recognition using ANN and SVM classifiers", 2017 IEEE International Conference on Innovations in Information, Embedded and Communication Systems (ICIIECS) 2017
- [2]. P.C. Badhe and V. Kulkarni, "Indian sign language translator using gesture recognition algorithm," 2015 IEEE International Conference on Computer Graphics. Vision and Information Security (CGVIS), Bhubaneswar, 2015, pp. 195-200
- [3]. Nimisha K P and A. Jacob. "A Brief Review of the Recent Trends in Sign Language Recognition" 2020, IEEE International Conference on Communication and Signal Processing (ICCSP), 978-1-7281-49882/20 Reaju P Band Kausik, "Hand Gesture Recognition using Deep Root Nodal Architecture, 2019 IEEE 978-1-7281-0089-0/19
- [4]. T. Daphne, M. Kevin," Implementing Gesture Recognition in a Sign Language Learning Application. IEEE 2020 Iris Signals and Systems Conference (ISSC).
- [5]. Nimisha K P and A Jacob, "A Brief Review of the Recent M. Al-Had G. Muhammad, W. Abdul Trends in Sign Language Recognition" IEEE International Conference on Communication and Signal Processing (ICCSP), 978-1-7281-4988-2/20
- [6]. Renju P B and Kausik. "Hand Gesture Recognition using Deep Root Nodal Architecture", 2019 IEEE 978-1-7281- 0089-0/19
- [7]. S. Nikam and A. G. Ambekar. "Sign Language Recognition using Image Based Hand Gesture Recognition Techniques" 2016 Online International Conference on Green Engineering and Technologies (IC-GET)
- [8]. M. Al-Had G. Muhammad, W. Abdul M Alan T. S. Abayes I Make, M. A. Makhoshe "Deep Lang-Based Approach for Sug Language Gestare Rog with Efficient Hund Get Reperemation 2020 IEEE ACCET
- [9]. MJN K. Bhayit. Viss Y Rathe GN. "Indian Sign Lange Gen Recognition ng Image Png and Deep Learning 2019, IEEE 978-1- 7281-3457-29 K Bhop Vis Y Ratna G N. "Indian Sign Language Gesture Recognition at Image Pincewing and Demp Learning 2019 IEEE 978-1-7283-3857-29

- [10]. A. S. Nikam and A. G. Ambekar. "Sign Language Recognition using Image Based Hand Gesture Recognition Techniques" 2016 Online International Conference on Green Engineering and Technologies (IC-GET)
- [11]. "Real-Time Hand Gesture Recognition using Convolutional Neural Networks for Indian Sign Language Recognition" by S. Jain and A. Gupta. IEEE International Conference on Image Processing (ICIP) 2018.
- [12]. "Sign Language Recognition Using a Wearable Device" by S. K. Das, N. L. Venkateswaran, and S. Venkataraman. IEEE Consumer Electronics Magazine, vol. 6, no. 4, pp. 73-80, 2017.
- [13]. "Real-Time Sign Language Recognition Using Convolutional Neural Networks" by M. F. R. Khan and M. S. Rahman. IEEE International Conference on Robotics, Automation and Mechatronics (RAM) 2018.
- [14]. "A Hybrid Approach for Indian Sign Language Recognition Using Kinect Sensor and Convolutional Neural Networks" by N. Singh, P. D. Rana, and S. K.
- [15]. Gupta. IEEE International Conference on Computational Intelligence and Computing Research (ICIC) 2018.
- [16]. "Indian Sign Language Recognition using Deep Learning Techniques" by V. Garg, A. Singh, and A. K. Tiwari. IEEE International Conference on Computational Intelligence and Computing Research (ICIC) 2018.