

Survey on Sign Language Detection Application

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Abstract: *Neural networks, as its name suggests, is a machine learning technique which is modeled after the brain structure. It comprises of a network of learning units called neurons. These neurons learn how to convert input signals (e.g. picture of a cat) into corresponding output signals (e.g. the label "cat"), forming the basis of automated recognition. A convolutional neural network (CNN, or ConvNet) is a type of feed-forward artificial neural network in which the connectivity pattern between its neurons is inspired by the organization of the animal visual cortex.*

Keywords: CNN, Sign Language, Gesture Recognition, OpenCV, ROI, Relu, Silhouette, Pooling, Histogram.

REFERENCES

- [1]. Hoshang Kolivand, Saba Joudaki, Mohd Shahrizal Sunar, David Tully "A new framework for sign language alphabet hand posture recognition using geometrical features through artificial neural network" ,International Journal of Engineering Research and Technology (IJERT), (19 August 2020)
- [2]. Ruchi Manish Gurav, Premanand K. Kadbe "Real time Finger Tracking and Contour Detection for Gesture Recognition using OpenCV" ,International Journal of Engineering Research and Technology (IJERT), (2016)
- [3]. LTriyono, E H Pratisto, S A T Bawono, F A Purnomo, Y Yudhanto and B Raharjo, "Sign Language Translator Application Using OpenCV" , International Journal of Computer Science and Telecommunications, (2017)
- [4]. Archana S. Ghotkar and Dr. Gajanan K. Kharate, "STUDY OF VISION BASED HAND GESTURE RECOGNITION USING INDIAN SIGN LANGUAGE " , International conference on emerging trends in science (2014).
- [5]. Antonio Domenech L. , " ASL Recognition with MediaPipe and Recurrent Neural Networks " , International Journal of Artificial Intelligence and Interactive Multimedia, Vol. 2, No 2.,(28. July 2020)
- [6]. Akshay Goel¹, Raksha Tandon², Mandeep Singh Narula³, "Sign Recognition and Speech Translation Using OPENCV" , AIEEE, Vol. 15 No. (Nov 2020)
- [7]. Ashutosh Samantararay, Sanjay Kumar Nayak, Ashis Kumar Mishra, "Hand Gesture Recognition using Computer Vision", (2013).
- [8]. Shruty M. Tomar, Dr. Narendra M. Patel, Dr. Darshak, G. Thakore "A Survey on Sign Language Recognition Systems" , Conference: 2013 Fourth International Conference on Computing, Communications and Networking Technologies (ICCCNT) ,(3 March 2021).
- [9]. Sadhana Bhimrao Bhagat, 2 Dinesh V. Rojarkar, "Vision based sign language recognition: a survey " , (January 2017)
- [10]. Alaa H Al-Obodi, Ameerh M Al-Hanine, Khalda N Al-Harbi, Maryam S Al-Dawas, and Amal A. Al-Shargabi, " A Saudi Sign Language Recognition System based on Convolutional Neural Networks" , (2020)