IJARSCT



International Journal of Advanced Research in Science, Communication and Technology

International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal

Volume 5, Issue 13, April 2025



Sign Language Detection Using Machine Learning

Om Patil¹, Harshita Mishra², Mansa Vangari³

Students, Department of Computer Engineering¹⁻³ Yadavrao Tasgaonkar Institute of Engineering and Technology, Bhivpuri ompatil6971@gmail.com, mishraharshita145@gmail.com, mansavangari@gmail.com

Abstract: Sign language is a vital means of communication for the Deaf and Hard of Hearing (DHH) community, yet it remains a barrier in interactions with the wider population. This project proposes a real-time sign language detection system using machine learning and computer vision to bridge this communication gap. The system captures hand gestures via a camera, processes the images using techniques like hand segmentation and feature extraction, and classifies them using a Convolutional Neural Network (CNN). The recognized signs are then translated into text or speech, enabling smooth interaction between sign language users and non- signers. The model achieves high accuracy and responsiveness in real-time, offering a practical solution for inclusive communication and educational tools. Future enhancements aim to support dynamic gestures, multi- language signs, and mobile deployment

Keywords: Sign Language Detection, , machine learning, communication, hand gestures, computer vision

Copyright to IJARSCT www.ijarsct.co.in



