American Sign Language Recognition System: Enhancing Communication Accessibility for Individuals with Hearing Disabilities

Soumay Patidar[1] and Prof. (Dr.) Prashant Lakkadwala[2]
B.Tech. Student - CSE(Data Science)[1]
Professor & HoD (IT Department)[2]
Acropolis Institute of Technology and Research (AITR), Indore, MP, India
soumaypatidar210040@acropolis.in and prashantlakkadwala.atc@acropolis.in

Abstract: *The Sign language is a visual language used by the people with the speech and hearing disabilities for communication in their daily conversation activities. It is completely an optical communication language through its native grammar, be unlike fundamentally from that of oral languages. In this research paper, presented an optimal approach, whose major objective is to accomplish the transliteration of 24 static sign language alphabets and numbers of American Sign Language into humanoid or machine decipherable English manuscript. Pre-processing operations of the signed input gesture are done in the first phase. In the next phase, the various region properties of pre-processed gesture image is computed. In the final phase, based on the properties calculated of earlier phase, the transliteration of signed gesture into text has been carried out. This paper also presents the statistical result evaluation with the comparative graphical depiction of existing techniques and proposed technique*

Keywords: American Sign Language, Gesture Recognition, ASL Alphabets, ASL Numbers, Preprocessing, Region Properties