

G.Narayanamma Institute of Technology & Science

(For women)

(Approved by AICTE, Affiliated To JNTUH, Accredited by NBA & NAAC)

(An ISO 9001:2015 Certified Institution)

Shaikpet, Hyderabad – 500 104

Department of Computer Science & Engineering



SIGN LANGUAGE RECOGNITION

USING IMAGE PROCESSING

BY

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ABSTRACT

The primary language of communication for people who are deaf and dumb is the Sign Language. Hand gesture is one of the methods used in sign language for non-verbal communication. The system aims to recognize the Sign Language and converts it to text. Input given to the system is an image of the hand depicting the necessary alphabet. The histogram of the input image is then computed and checked for similarity with the histograms of pre-saved images. The image whose histogram is the most similar with the histogram of the input image is then checked for its associated alphabet and the alphabet is printed out. The objectives of the system are - helps the hearing and speaking impaired to communicate with people who do not understand sign language, helps the deaf and dumb to carry out their daily transactions without relying on an interpreter, broadens the use of technology to solve social problems. Implementation of the system will be a small step in overcoming the social barrier of communication between the deaf-dumb people and the people who do not understand sign language.

SYSTEM REQUIREMENTS:

Software Requirements:

Platform	- Python
Front End	- Opencv, Tensorflow
Development Tool	- Jupyter notebook
Back End	- Keras

Hardware Requirements:

Name of the Processor	- INTEL CORE i5
Hard Disk Capacity	- 1TB
RAM Capacity	- 8GB