

MAJOR PROJECT ABSTRACT [Form – 1] (YEAR – 2022-23)

NAME OF LAB COORDINATOR: Ms. Anajna Sangwan

TITLE OF PROJECT: Sign-Language Recognition System

PROJECT TRACK: (Tick the appropriate one / ones)

1. R&D (Innovation)	<input checked="" type="checkbox"/> 2. CONSULTANCY (Fetched from Industry)	3. STARTUP (Self-Business Initiative)	4. PROJECT POOL (From IBM / INFOSYS)	5. HARDWARE / EMBEDDED
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BRIEF INTRODUCTION OF PROJECT:

The Sign Language Recognition System is an innovative project that aims to bridge the communication gap between individuals with hearing impairments and the hearing community. By leveraging advanced computer vision and machine learning techniques, the system can interpret and translate sign language gestures into text or speech in real-time. This technology opens up new possibilities for seamless communication and inclusivity, empowering deaf individuals to interact and participate more effectively in various aspects of life.

TOOLS / TECHNOLOGIES TO BE USED:

NAME OF TOOL / TECHNOLOGY	VERSION	SOFTWARE / HARDWARE	PURPOSE OF USE
Python	3.11.3	Software	Main Programming Language
Flask	2.3.1	Software	To create the Backend
TensorFlow	2.12.0	Software	To develop ML model
OpenCV	4.5.2	Software	Used for Computer Vision
Keras	2.12.0	Software	To simplify process of building ML model
HTML/CSS/JavaScript	N/A	Software	To create the Frontend
Webcam	N/A	Hardware	To capture and recognize Sign Language

PROPOSED PROJECT MODULES:

NAME OF MODULE	PROPOSED FUNCTIONALITY IN PROJECT
Data Gathering	Used for research, analysis planning and trend identification
Data Cleaning, Manipulation & Pre-Processing	Used for data quality enhancement and transformation
Model Building	Used to creating predictive or descriptive models for data analysis.
Model Testing and Training	Used to evaluating model performance and optimizing predictive accuracy.
Model Deployment using Flask	Used to serve the trained model via a Flask web application.

TEAM MEMBER DETAILS:

STUDENT NAME	CLASS & GROUP	MOBILE No.	EXPERTISE AREA	ROLE IN PROJECT
Aman Jain	CSE A-G2	9352177500	Data Analytics	Helped in creating dataset
Anshika Mittal	CSE A-G2	9887750732	Machine Learning	Trained the ML Model
Arunabh Jain	CSE A-G2	8384922006	Web Development	Created Frontend & Integration
Aryan Sharma	CSE A-G2	9352759879	Web Development	Backend API development

NOTE: 1. This form is to be submitted by a team of maximum 4 students in the starting of semester to the lab coordinator.
2. Students must keep a Xerox copy of this form as reference for project work and attach it to the final report.