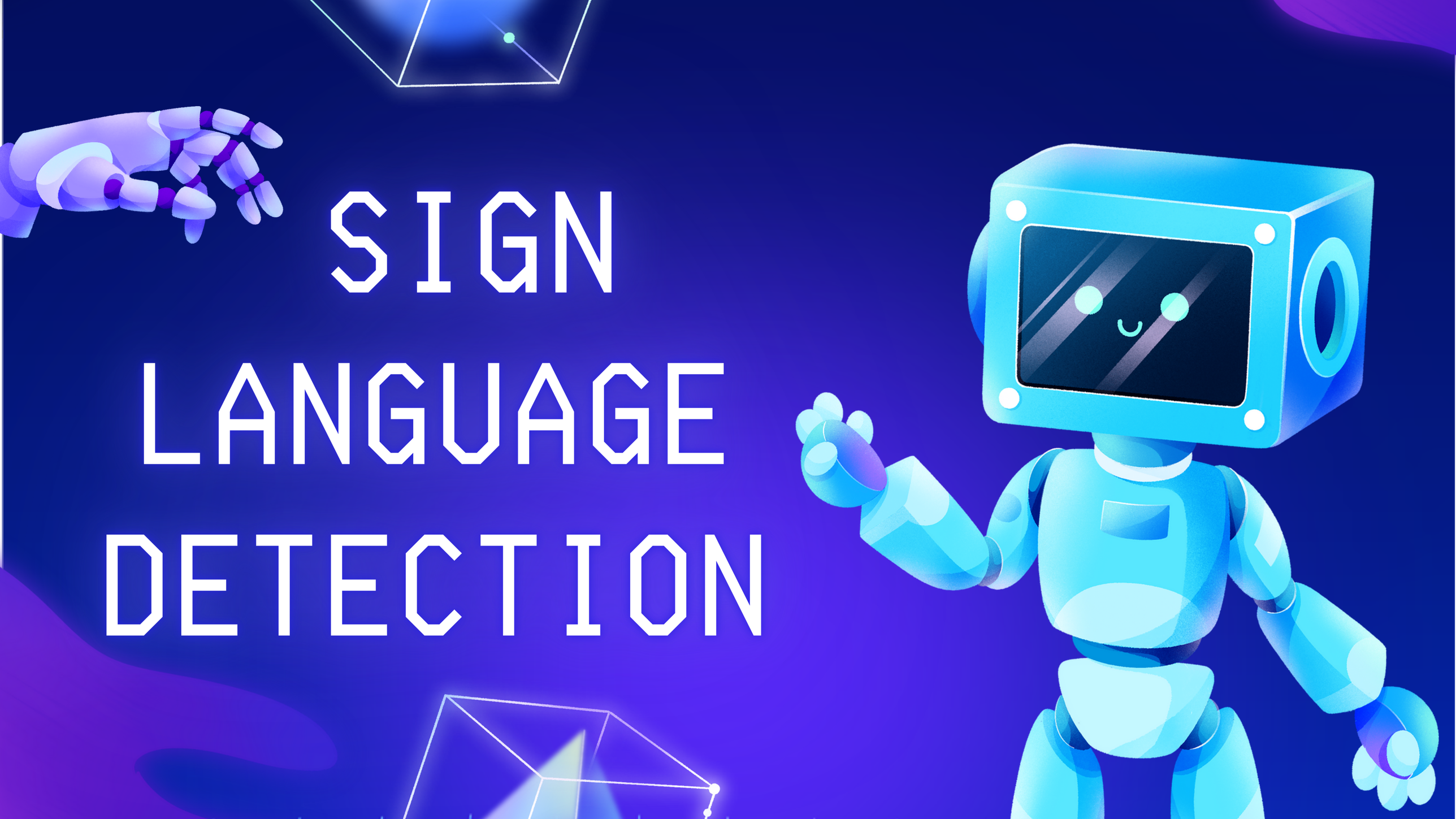
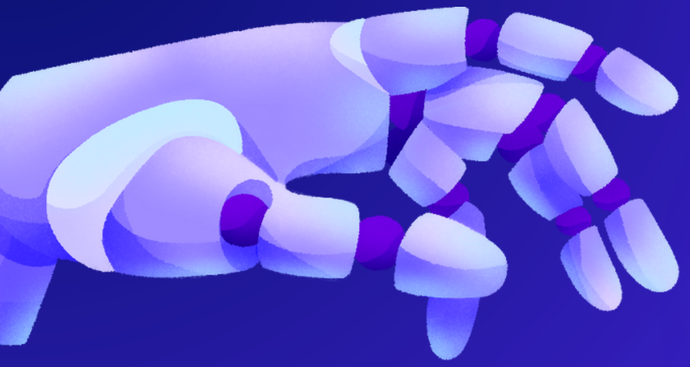

SIGN
LANGUAGE
DETECTION



TEAM MEMBERS

- Biancaa R 025
- Chinmaiyee V 027
- Hareeshwara 304
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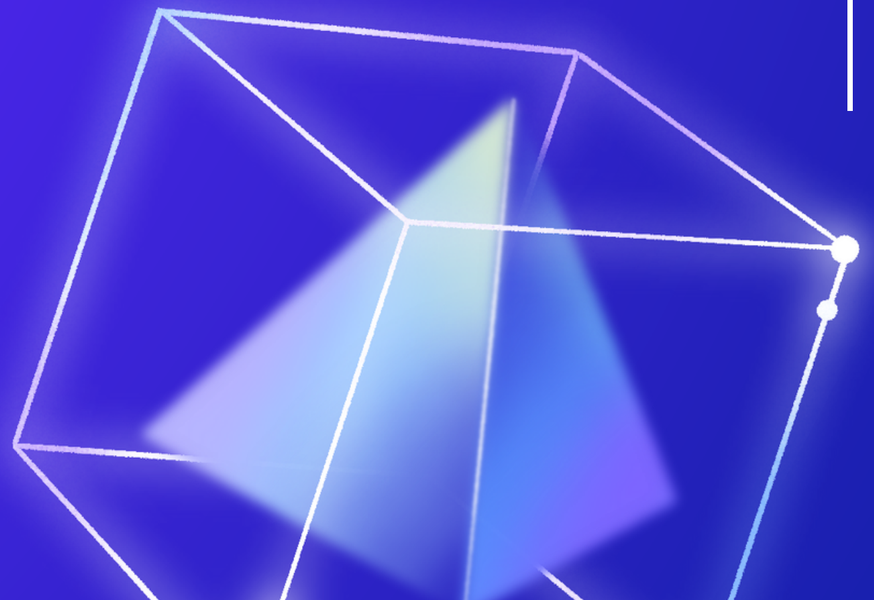


TECHNOLOGY STACK

- Computer Vision Libraries: OpenCV
- Machine Learning Models: CNNs
- Gesture Recognition Libraries: MediaPipe, OpenPose
- Image recognition using TensorFlow, PyTorch.

TARGET AUDIENCE

The deaf

People who are not capable of hearing can communicate effectively by the use of sign language. The model that we build will act as a bridge enabling communication between the deaf with others.

The mute

The people who cannot speak any kind of linguistic language which can be interpretted by humans fall into this category therefore they can communicate their ideas in real time by using this app

PROCESS INVOLVED:

01

1. Data Collection:
Gather a diverse dataset of sign language gestures. This dataset should include different signs, angles, lighting conditions, and hand variations.

02

2. Preprocessing:
Clean and preprocess the collected data. This might involve resizing images, converting to grayscale, or applying filters to enhance the features.

03

3. Feature Extraction:
Extract relevant features from the images or videos of sign language gestures. Features might include hand shape, movement, position, and orientation.

04

4. Model Building:
Train a machine learning or deep learning model using the preprocessed data. Techniques like convolutional neural networks (CNNs) or recurrent neural networks (RNNs) are commonly used for this purpose.

05

5. Testing and Evaluation:
Evaluate the model's performance using a separate test dataset. This step involves assessing accuracy, precision, recall, and other relevant metrics.

PROJECT SCOPE

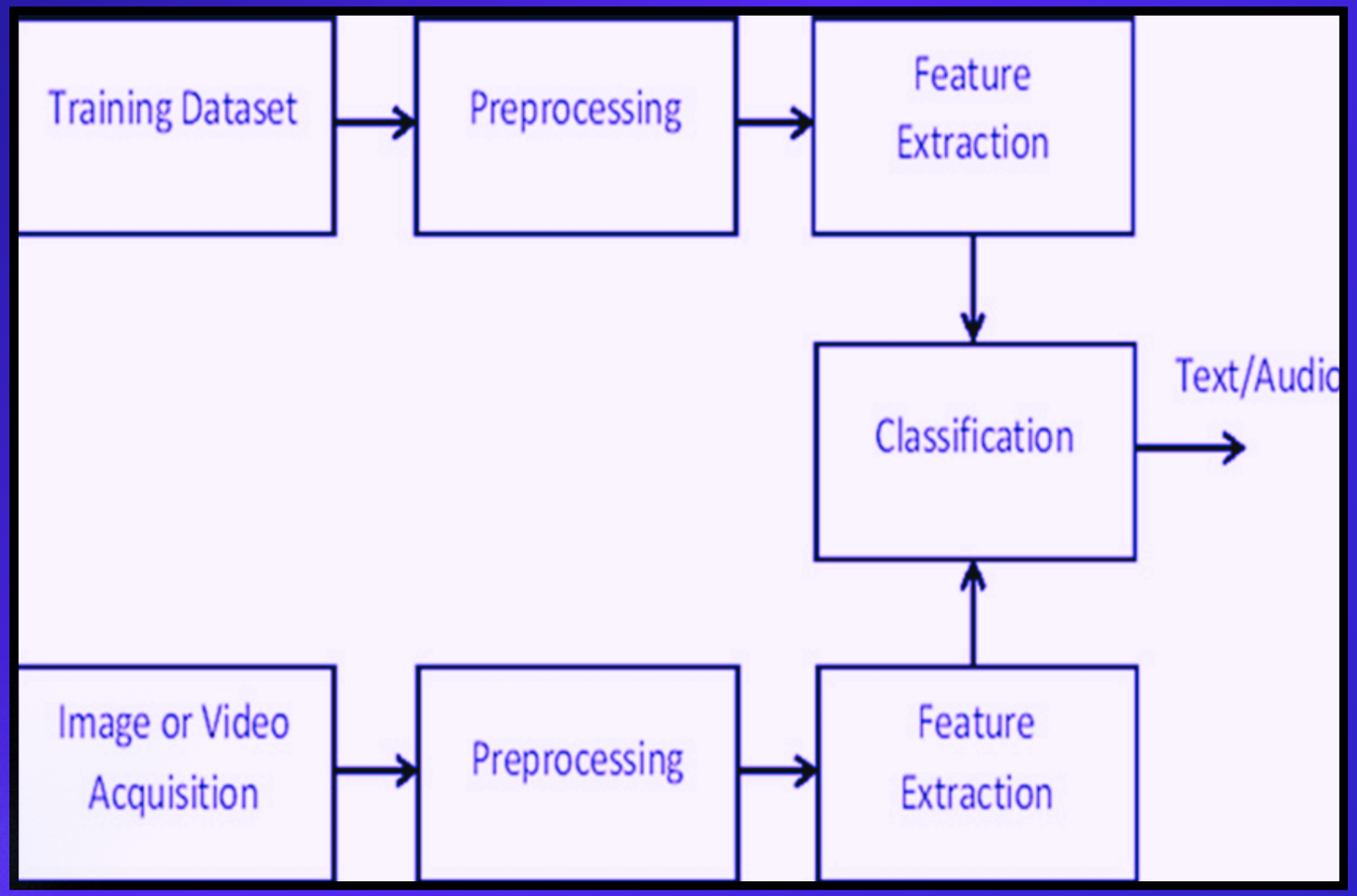
TECHNICAL CONSIDERATIONS:

1.Variability: Sign language involves a wide range of gestures, movements, and expressions.

2.Real-Time Processing: Achieving real-time interpretation is crucial for practical applications.

3.Accuracy and Robustness: Ensuring accurate recognition under various conditions (different hand shapes, lighting, background, etc.).

BLOCK DIAGRAM



THANK YOU!