Jaypee Institute of Information Technology, Noida

Minor Project-1

Odd Semester, 2020

<u>Progress Report-1</u>

1. Group No.: 63

2. Group Members Name and Enrollment Number:

   1. Eshan Dhawan (9918103066)

   2. Kavya Vishnoi (9918103188)

   3. Rhythm Agarwal (9918103080)

3. Supervisor: Dr Raju Pal

4. Title: Indian Sign Language conversion to text and speech.

5. Objectives in Points:

   Conversion of Indian Sign Language to Text and Speech and vice versa :

   - Take input of hand gestures from the camera
   - From the input received from the camera, extract the frames and then process the image from BGR channels to a single channel GRAY channel then we will extract the features of the image.
   - Then we will process the extracted data.
   - We will try and test various Machine Learning techniques and models over the extracted data to return simple English text.
   - Then convert the extracted text to speech.
   - We also planned to implement speech to sign language conversion in our project
   - We take input speech from the user and convert it into English text using google's speech recognition API.

- Then we change the generated text to sign language by displaying the images of each alphabet.

6. Work done till 25.09.2020:

- Setup a GitHub repository specifically for the project.
  GitHub repo link: https://github.com/eshandhawan51/isl_convertor ●
Read various research papers and view various already developed projects. ●
Implemented text to speech module and speech to text module.
  - For the text to speech module, we used the pyttsx3 Library as it can also be used offline and has various settings for speech.
  - For the speech to text module, we used the speech_recognizition Library.

Discussion with Mentor:

01: 24thSept2020 12:30pm

https://drive.google.com/file/d/1u54GuejOW2RmHf16Fsrcl9-f1pmzJLqE/view

References :

https://devmesh.intel.com/projects/a-translator-for-indian-sign-language-to-text-and-speech

https://github.com/imRishabhGupta/Indian-Sign-Language-Recognition

https://research.ijcaonline.org/volume70/number19/pxc3887306.pdf

https://towardsdatascience.com/american-sign-language-hand-gesture-recogniti on-f1c4468fb177

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