**SHRI VISHNU ENGINEERING COLLEGE FOR WOMEN:: BHIMAVARAM**

**(AUTONOMOUS)**

**DEPARTMENT OF CSE**

**Academic Year:: 2021-22 :: II Semester**

**B.Tech - PROJECT WORK:: ABSTRACT**

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| **Name of the Class / Section** | IV CSE - B | | |
| **Batch Number** | B09 | | |
| **Project Domain / Technology** | Machine Learning | | |
| **Project Title** | Sign Language Detection | | |
| **Guide Name** | Dr. P. Kiran Sree | | |
| **Students Registered** | **Registered Number** | **Student Name** | **Student**  **Signature** |
| 18B01A0574 | Kovvuri Sushma | K.Sushma |
| 18B01A0590 | Gadidesi Chandrika | G.Chandrika |
| 18B01A05A9 | Pappula Kusuma Latha | P.Kusuma Latha |
| 18B01A05B7 | Sanka Sri Naga Vardhini Vyshnavi | S.S.N.V.Vyshnavi |
|  | 19B05A0508 | Kasani Rupa Sri | K.Rupa Sri |

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| --- | --- | --- |
| Accepted By Guide |  |  |
| **Signature of**  **Internal Project Guide** | **Signature of**  **B.Tech Project – Coordinator** | **Signature of**  **Head of the Department** |

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| **Abstract of the Project** | | | |
| Sign Language is the means of communication among the deaf and mute community. Sign Language emerges and evolves naturally within the hearing impaired community. Sign Language communication involves manual and non-manual signals where manual signs involve fingers, hands, arms and non-manual signs involve face, head, eyes and body. Sign language is a complete natural language that uses different ways of expression for communication in everyday life.  There have been several advancements in technology and a lot of research has been done to help the people who are deaf and dumb. The purpose of this project is to design a convenient system that is used to detect the visual-gestural language used by deaf and hard hearing people for communication purposes.  The goal of this project was to build a neural network able to classify which gesture of the Sign Language is being signed, given an image of a signing hand. This project is a first step towards building a possible sign language translator, which can take communications in sign language and translate them into written language. Such a translator would help for many deaf and mute individuals to be able to better communicate with others in day to day interactions.  Therefore to enable dynamic communication, we present a sign language recognition system that uses Convolutional Neural Networks (CNN) in real time to translate an image of a user’s signs into text. | | | |
| **Existing System (If any) – Features & Drawbacks** | | | |
| * Most of the existing tools for sign language learning use external sensors which are costly. * The existing system can be able to detect only numbers from one to ten but not for other hand gestures that are used by deaf and dumb people to express something in real life.   **Proposed System – Features**  **List of objectives/features that are planned to implement.** | | | |
| * The proposed system is to use a machine learning model that can be able to detect the hand gestures that are frequently used by deaf and dumb people for communication.   **(i)Functional Requirements**   * Software should automatically recognize the gesture through the video input. * Software should give out the correct meaning of the gesture. * Software should run on as many platforms as possible. | | | |
| **(ii) Non Functional Requirements**   * The software should be available at all times. * The software should be coded in a way which is easily readable and maintainable. | | | |
| **(iii) Software & Hardware Requirements**  Operating System : Windows 10  RAM : 4GB  Processor : Intel core i3 or above  Hard Disk : 20GB or above  Python and Jupyter Notebook  OpenCV  TensorFlow | | | |
|  | Expected Date of completion  10 – 04 – 2022 |
| Literature Survey | [1] Sunitha K. A, Anitha Saraswathi.P, Aarthi.M, Jayapriya. K, Lingam Sunny, “Deaf Mute Communication Interpreter- A Review”, International Journal of Applied Engineering Research ,Volume 11, pp 290-296 , 2016.  [2] Mathavan Suresh Anand, Nagarajan Mohan Kumar, Angappan Kumaresan, “ An Efficient Framework for Indian SignLanguage Recognition Using Wavelet Transform” Circuits and Systems, Volume 7, pp 1874- 1883, 2016. |
| **Modules** | **Expected date of completion** |
| Data Preprocessing | 20-02-2022 |
| Build & Train the model | 20-03-2022 |
| Test the model | 31-03-2022 |
| Deploying the model | 07-04-2022 |
| Test the project | 10-04-2022 |
| Project Report | 19-04-2022 |