

Project Title

AWAZ Pakistani Sign Language Recognition (Communication App)

Using Hand Gestures Py OpenCV numpy math tkinter pyttsx3 speech_recognition

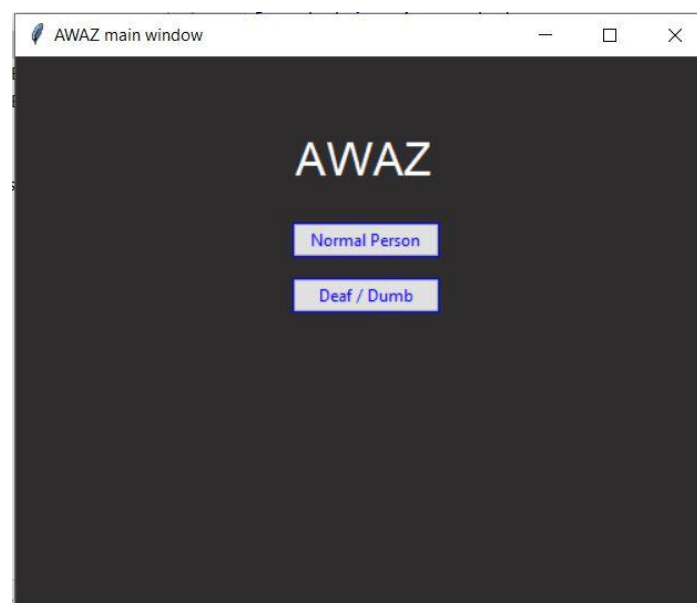
Getting Started

All the source code is available inside SourceCode Directory. It requires python version 3.6 or later as to synchronize with opencv and numpy.

* gui.py available inside source code directory,

Name	Date modified	Type	Size
.idea	2/3/2021 1:58 PM	File folder	
__pycache__	2/2/2021 12:20 PM	File folder	
Capture	1/5/2019 8:03 AM	PNG File	244 KB
deaf	2/2/2021 12:20 PM	PY File	2 KB
gui	2/2/2021 12:11 PM	PY File	2 KB
Hand_Gesture_Ex1	2/1/2021 11:15 AM	PY File	1 KB
Hand_Gesture_Ex2	2/2/2021 12:20 PM	PY File	6 KB
README	1/5/2019 8:03 AM	MD File	1 KB

Run it with the help of any compiler and the screen appears with two option Deaf/Dumb and normal person.



*As if you select normal person it will redirect to normal persons model, that model will open your camera and detects your gestures and convert it to text.

*Prerequisites = Camera

*As if you select Deaf/Dumb then it will redirect to deaf and dumb community model that will open your microphone and convert your speech to text.

*Prerequisites = microphone

* Install the required libraries and packages.

* Start using the application by simply double clicking "gui.py"

Prerequisites

* python 3.6 or later

* pyqt5, tkinter

* pyttsx3

* speech_recognition

* opencv

* pillow

* math

Installing

Download the software setups and follow the on screen instructions

step 1

Installing python 3.6 can be downloaded from below link

[Click here to visit download page](<https://www.python.org/downloads/release/python-371/>)

step 2

Installing pyqt5 with the following command

```
pip install pyqt5
```

*Note: If getting error related to 'No module named PyQt5.sip' you are expected to do as follows:


```
pip uninstall PyQt5 PyQt5-sip PyQtWebEngine<br>
```

```
pip install PyQt5* <br>
```

[Reference link](<https://stackoverflow.com/a/58880976>)

step 3

Installing speech_recognition with the following command

pip install speech_recognition

step 4

Installing pytsx3 with the following command

pip install pytsx3

step 5

Installing tkinter with the following command

pip install tkinter

step 6

Installing opencv for python with the following commands

pip install opencv-python==3.4.2.16

```
pip install opencv-contrib-python==3.4.2.16
```

```
...
```

```
## Edited on 3th Feb, 2021 After abundance of request and observation following changes has  
been made
```

Authors

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* **Bhawish Raj** - *Synopsis preparation, Requirement specification, Detection of gestures  
through camera, ASL character generation through hand gestures, Sentence formation,  
Modelling of project, speech to text converter.
```

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```