



# **SPEECH EMOTION RECOGNITION**

# OUR TEAM

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What brought us here?

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What we learned and designed as a result of our researches?

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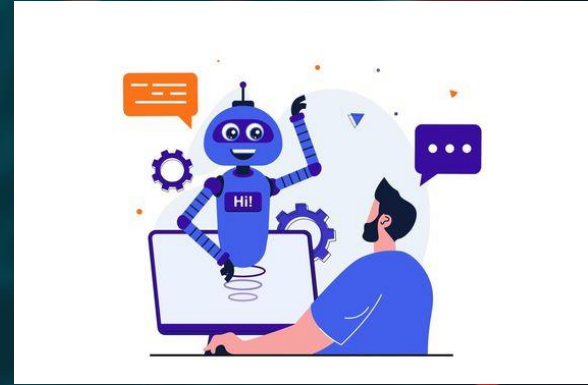
## PROTOTYPE

Prototype of the SER web-site

# INTRODUCTION



CALL CENTER



VIRTUAL ASSISTANT

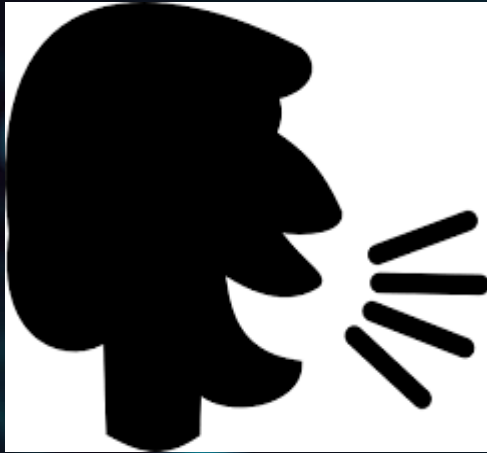


CUSTOMER SERVICES



# PROBLEM

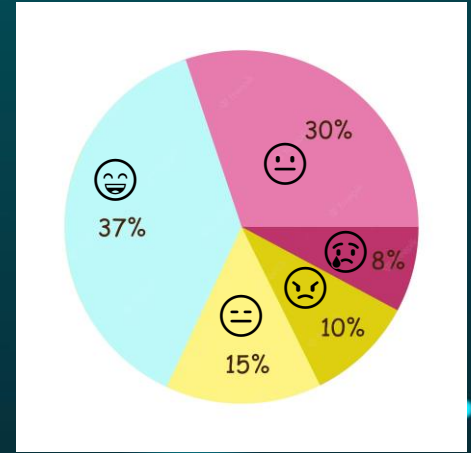
What brought us here?



Speech Analysis



Evaluate of Emotional Data



Analysis Result

# ANALYSIS

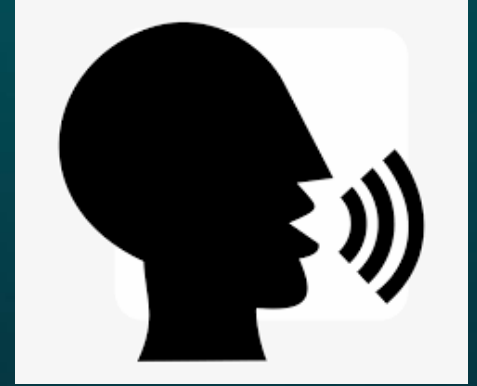
What we learned and designed as a result of our researches?



Speech is the most important and effective main way of human interaction.



There is a transfer of emotion in every person's speech.

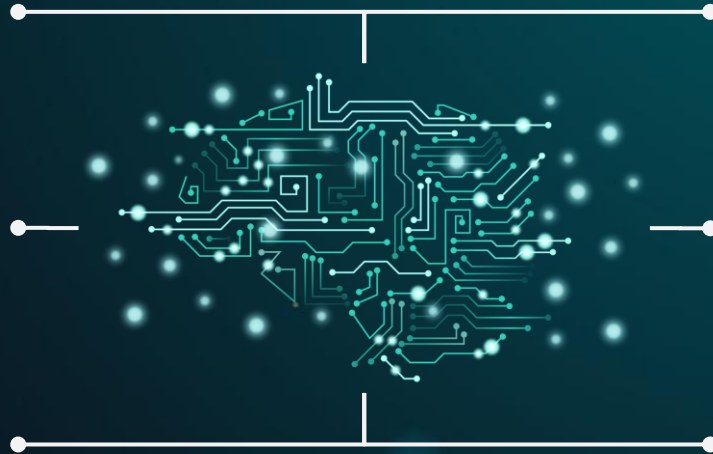


Analyzing speech signals.

# SYSTEM PURPOSE



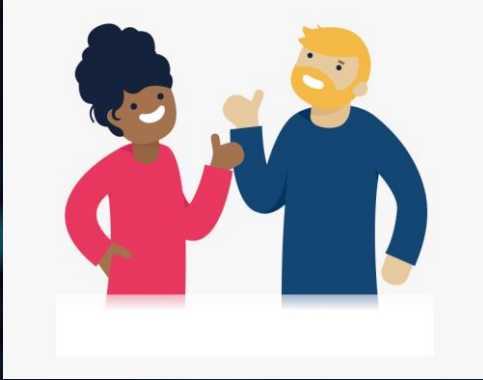
**Upload File**



**Machines'  
understanding of  
human emotions**



# SYSTEM PURPOSE



The aim of this system is to analyze the emotional state of these people as a result of taking the texts that people have spoken or written.





# SIMILAR PROJECTS

Papers	Dataset	Emotions	Technique	Accuracy(%)
An Urdu Speech Corpus For Emotion Recognition (2022) [2]	Urdu Emotional Speech Dataset	Angry, Happy, Sad, Neutral	k-NN (with disgust)	72.5
			k-NN (without disgust)	82.5
Clustering-Based Speech Emotion Recognition (2020) [3]	IEMOCAP EMO-DB RAVDEES	Angry, Happy, Sad, Fear, Surprise, Neutral	CNN + LSTM	72.25
				85.57
				77.02
Speech Emotion Recognition with Deep Learning (2020) [4]	RML Dataset	Angry, Disgust, Fear, Happy, Sad, Surprise	Basic AE with SVM	72.83
			Stacked AE with SVM	74.07
Speech emotion recognition with deep convolutional neural networks (2020) [5]	IEMOCAP EMO-DB RAVDEES	Angry, Disgust, Fear, Happy, Sad, Surprise	CNN	64.30
			LSTM	71.61
				86.1

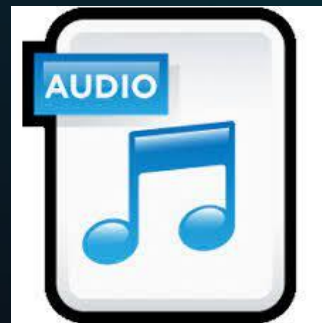


When the projects done in the past are examined, it has been observed that Angry, Disgusted, Fear, Happy, Sad and Surprised emotions intensified.

# DIFFERENCE

What is our difference?

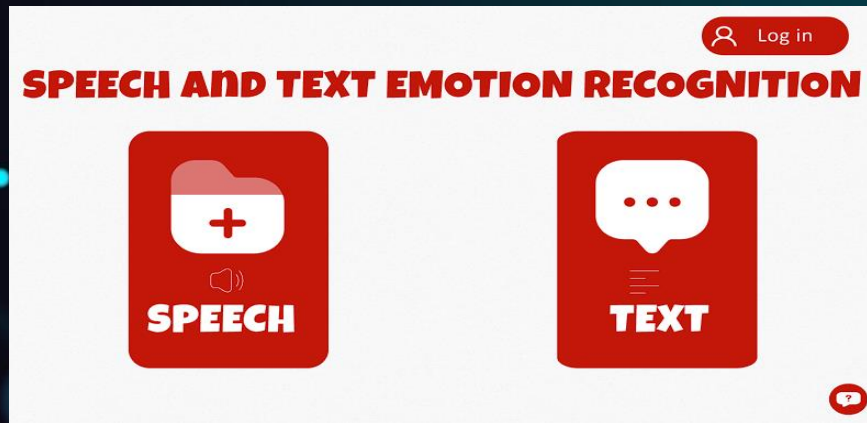
WHAT SETS US APART



Emotion analysis from  
text and audio files.

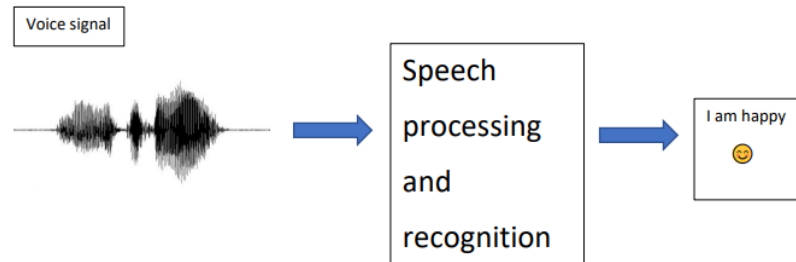


# CONTRIBUTIONS



We work from both audio and text files.

After the audio file is processed, it is converted into text and the mood appears on the screen.



# ADVANTAGES



**1-EASE OF USE**



**4- SAVING ON TIME**

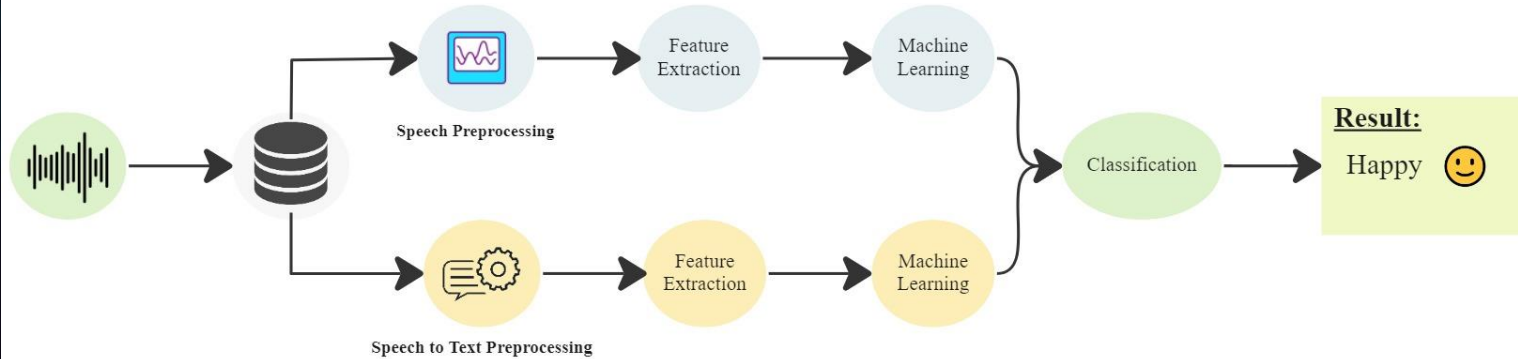


**2- FEWER ERRORS**



**3-NO REQUIREMENT OTHER  
THAN PC**

# FLOWCHART



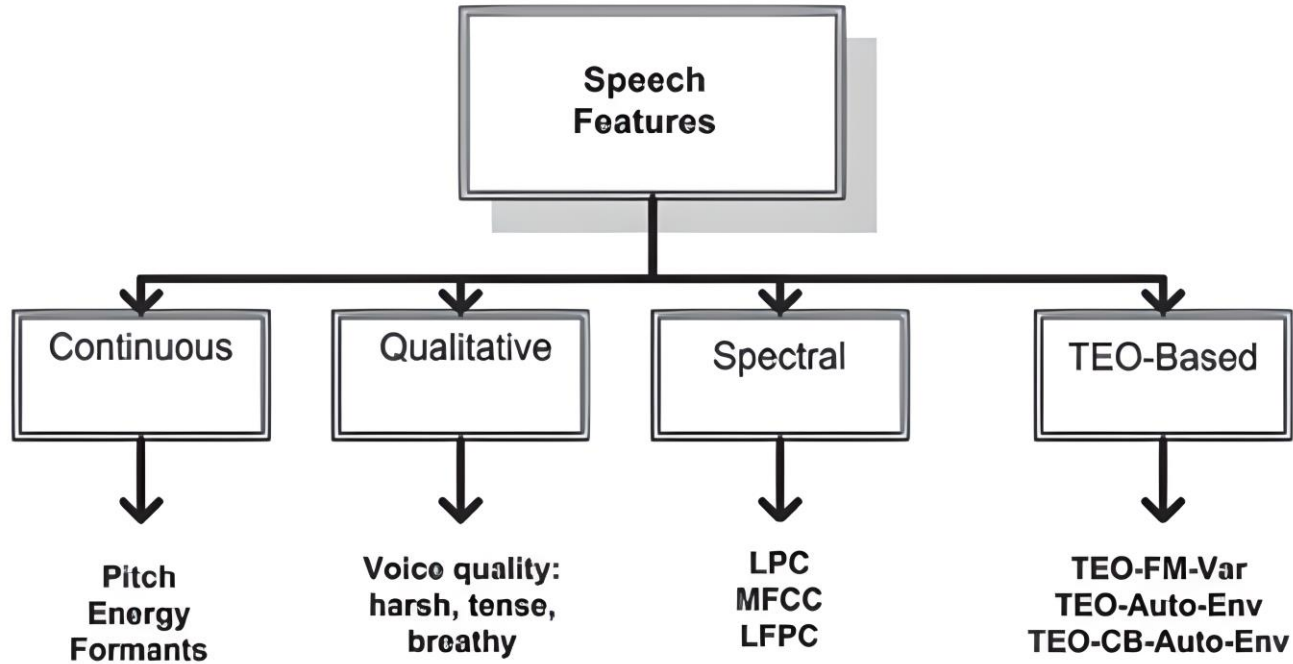
# FEATURE EXTRACTIONS

The speech features can be divided into 4 main categories:

- - Continuous Speech Features
- - Voice Quality Features
- - Spectral-Based Speech Features
- - Nonlinear TEO-Based Features

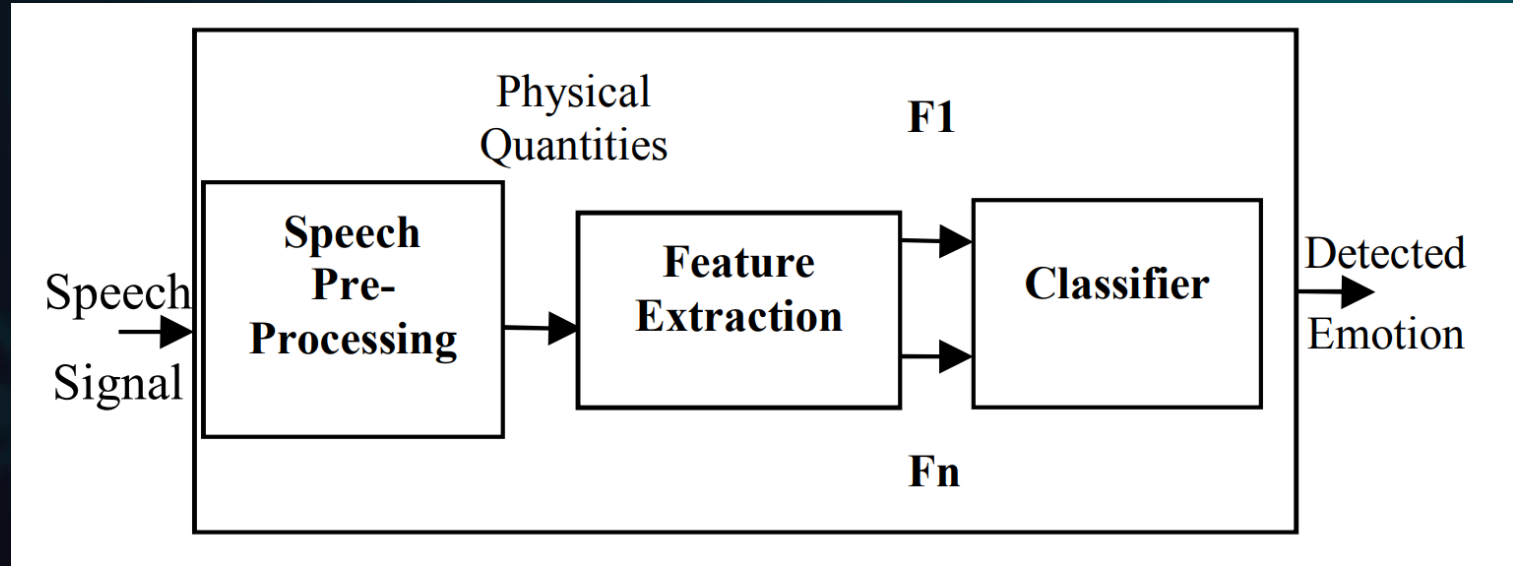


# FEATURE EXTRACTIONS





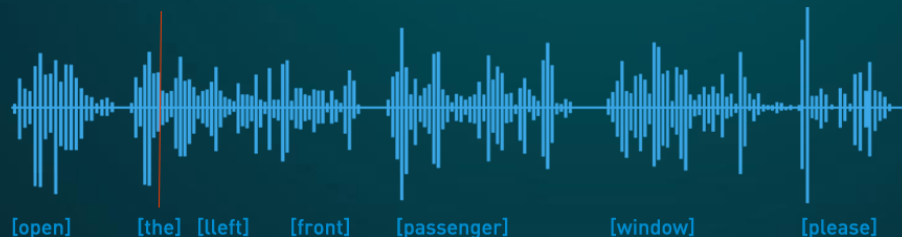
# FEATURE EXTRACTIONS



# FEATURE EXTRACTIONS

## Continuous Speech Features:

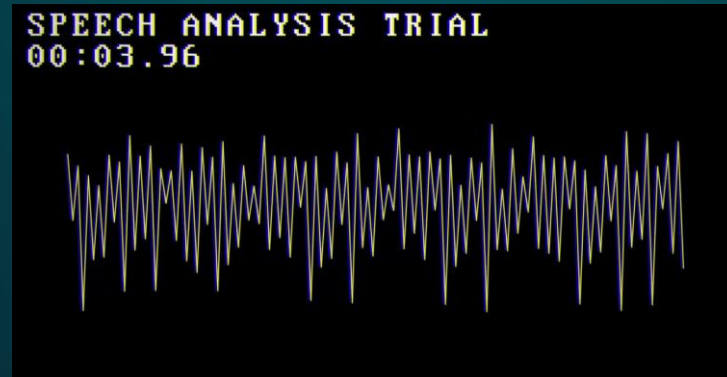
- - Pitch-Related Features
- - Formants Features
- - Energy-Related Features
- - Timing Features



# FEATURE EXTRACTIONS

## Voice Quality Features:

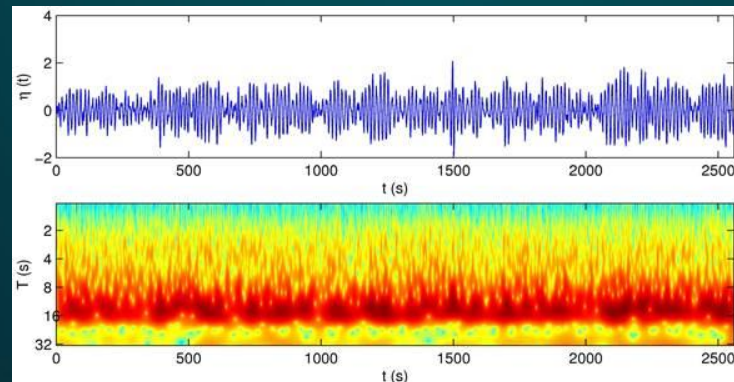
- - Voice Level
- - Voice Pitch
- - Phrase, Phoneme, Word and Feature Boundaries
- - Temporal Structures



# FEATURE EXTRACTIONS

## Spectral-Based Speech Features:

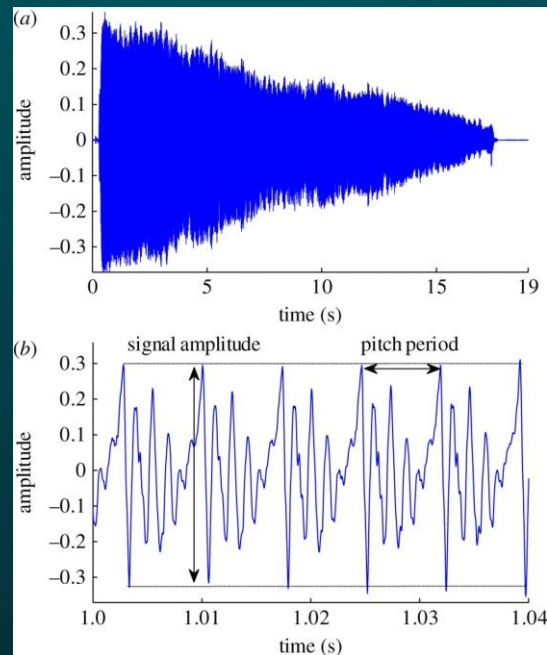
- - Linear Predictor Coefficient (LPC)
- - Mel Frequency Cepstral Coefficient (MFCC)
- - Log Frequency Power Coefficient (LFPC)



# FEATURE EXTRACTIONS

## Nonlinear TEO-Based Features

- - TEO Decomposed FM Variation
- - Normalized TEO Autocorrelation Envelope Area
- - Critical Bandbased TEO Autocorrelation Envelope Area



# TECHNOLOGIES

What were the technologies and diagrams used?



# FUTURE WORKS



**CALL CENTER**

01



02



03



**HEART RATE**

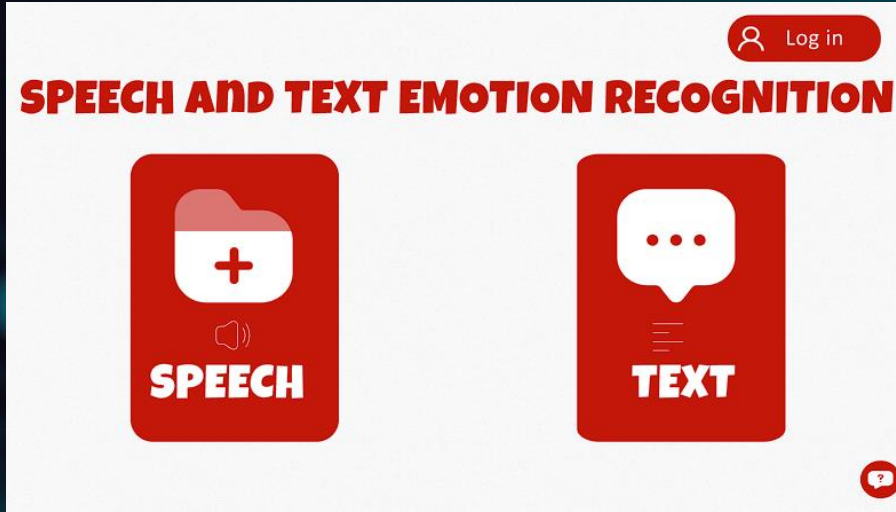


**FACIAL  
EXPRESSION**

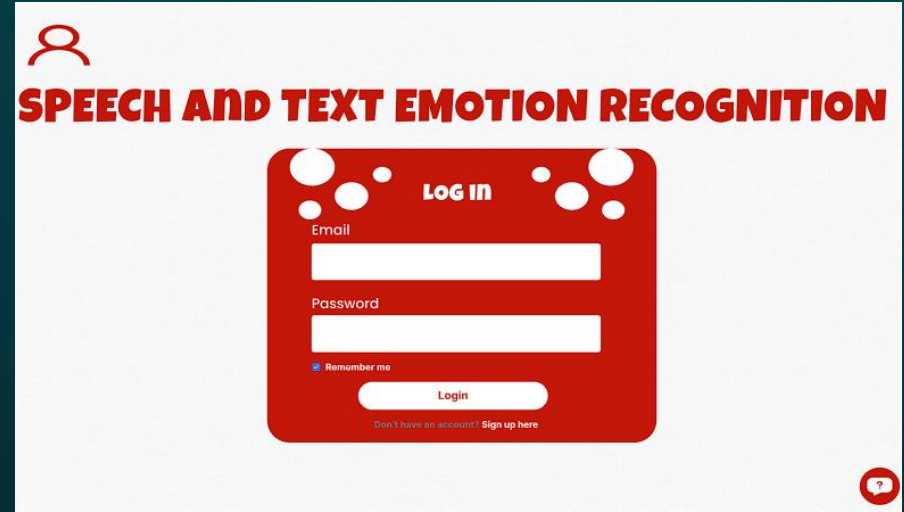


# PROTOTYPE

## Prototype of the SER web-site



HOME PAGE



LOGIN PAGE

# PROTOTYPE

## Prototype of the SER web-site

**SPEECH AND TEXT EMOTION RECOGNITION**

user\_name

### SPEECH

File upload

Drag your file here

or

Browse

Uploaded

document name.wav

SUBMIT

?

UPLOAD SPEECH FILE PAGE

**SPEECH AND TEXT EMOTION RECOGNITION**

user\_name

### TEXT

Enter your text here:


SUBMIT

?

UPLOAD TEXT PAGE

# PROTOTYPE

## Prototype of the SER web-site

**SPEECH AND TEXT EMOTION RECOGNITION** 

# RESULT

☒ Speech  
☐ Text

Select


EVALUATE

**RESULT TABLE**


Happy 😊	: 70%
Neutral 😐	: 10%
Sad 😞	: 5%
Angry 😡	: 10%
Fear 😨	: 5%

**-RESULT-**

*Happy* 😊




RESULT PAGE

**SPEECH AND TEXT EMOTION RECOGNITION** 

**1- WHAT IS SPEECH EMOTION RECOGNITION SYSTEM?**  
.....

**2- HOW CAN I USE THIS SYSTEM?**  
....

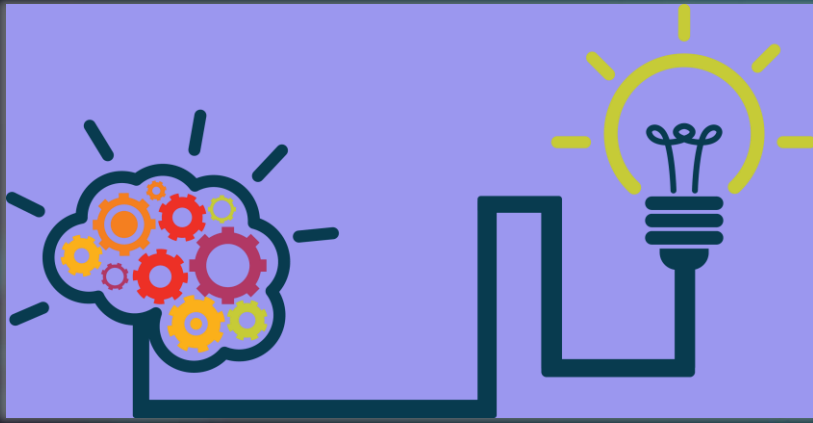
**3-....**

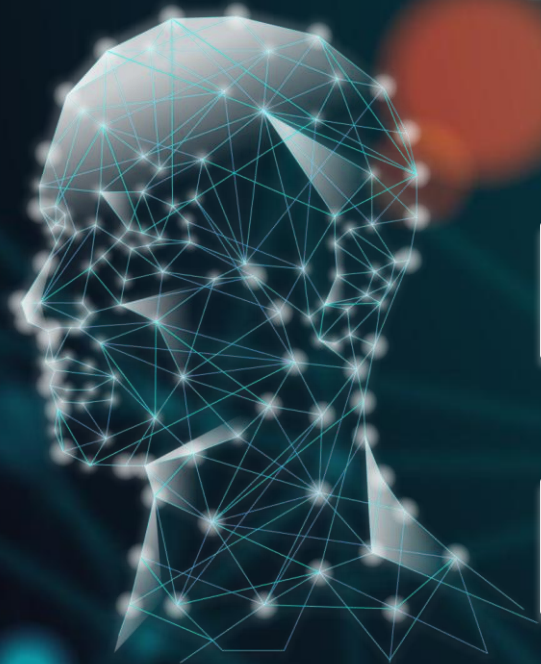


FAQ PAGE

# CONCLUSION

To sum up





**THANK YOU  
FOR  
LISTENING!!**

