



# A PERSONAL TRAINER APP TO SELF-TRAIN AND IMPROVE PRESENTATION SKILLS



# MEET THE TEAM MEMBERS



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**IT17535090**

*Wedage C.V.*

# Research Problem

Is there a mechanism  
in place to evaluate  
presentation skills in  
advance?



**Solution is,**

 **PRESENTLY**

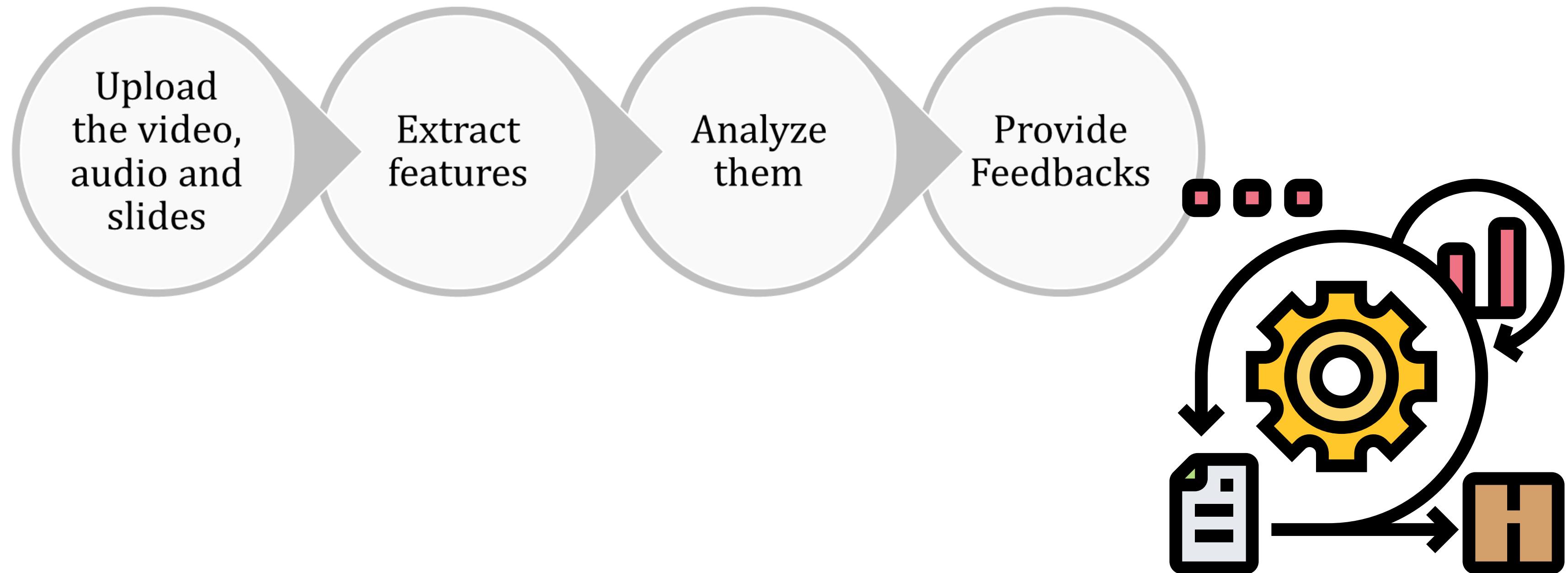


# RESEARCH OBJECTIVES

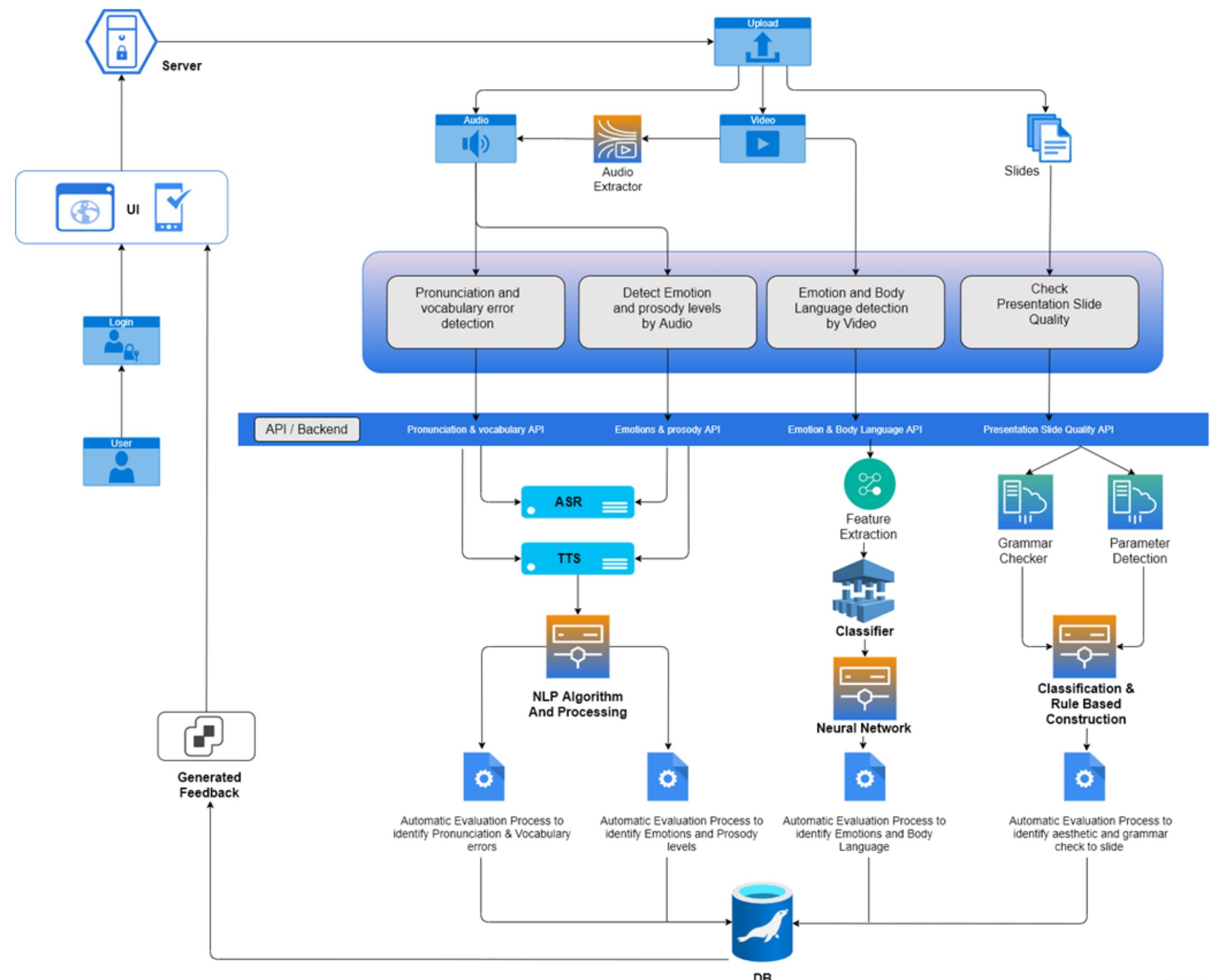
- TO DEVELOP A MOBILE RESPONSIVE WEB APPLICATION  
TO EVALUATE THE PRESENTATION SKILLS.
- To provide a user with inaccurate pronunciation and vocabulary, and to identify the story's emotions and enhancements.
- To detect user, the match or mismatch between topic tone and emotions used to present the story.
- To suggest the user how to effectively attract an audience by analyzing slides for content and aesthetics using computer vision and design best practices.



# SYSTEM METHODOLOGY



# Architecture Diagram





# INDIVIDUAL COMPONENTS

Audio analysis

**PRONUNCIATION  
& VOCABULARY  
ERRORS**

Video analysis

**EMOTION & BODY  
LANGUAGE  
DETECTION**

Audio analysis

**EMOTION  
DETECTION &  
PROSODY**

Content analysis

**SLIDE AESTHETIC  
QUALITY**



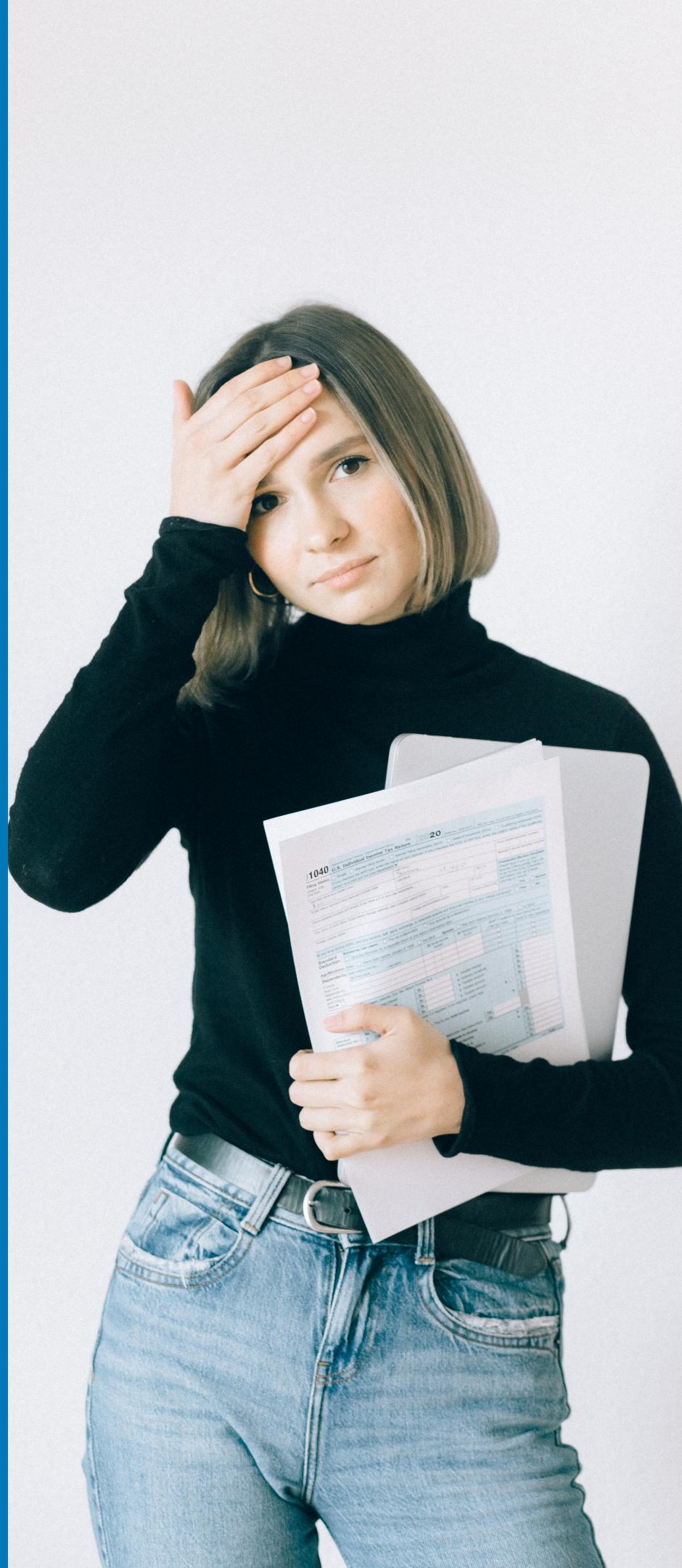


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# RESEARCH PROBLEM



- To create self-train web application to cater personal coach to check presentation slide quality by analysing input pptx.
- Detect mistakes by Checking the grammar, and spelling errors and checking the style consistency of the content.

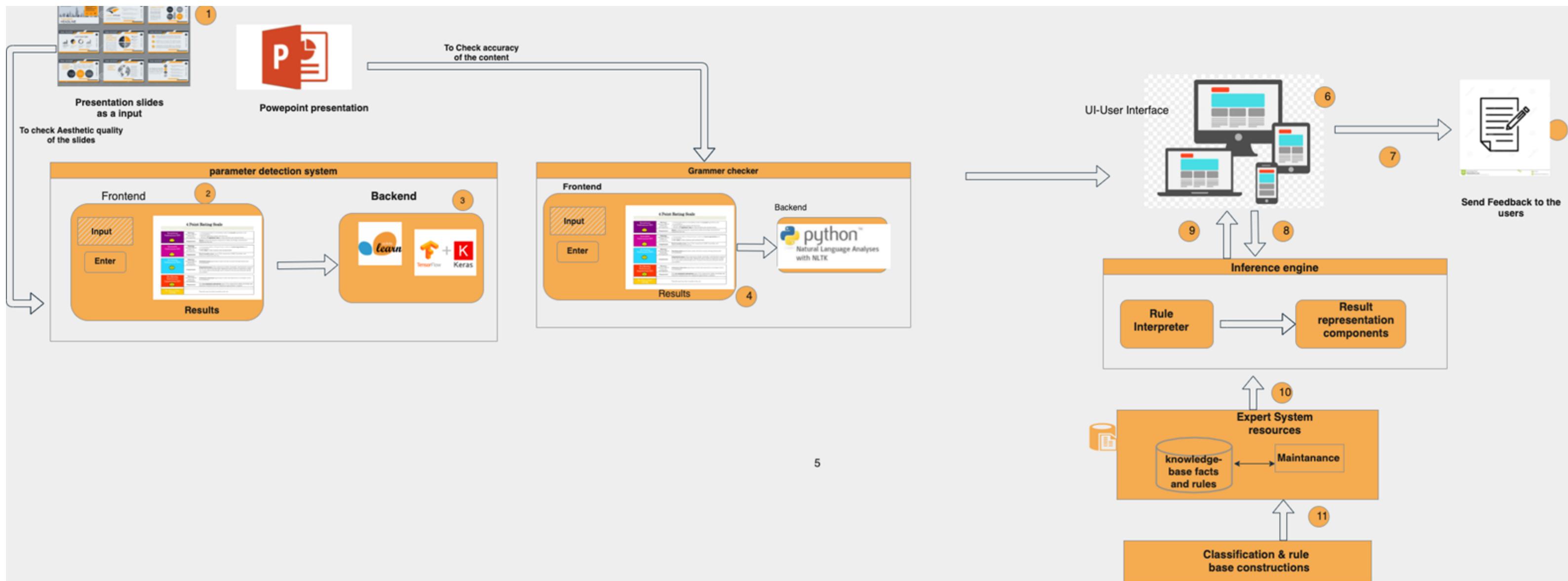
# OBJECTIVES



- To Check the aesthetic quality of the slides and create textual error-free quality slides.
- Do the proofreading and check the presentation slides' correctness.
- Aesthetic-aware slides to image synthesis.
- After inserting pptx into the personal trainer web application, the system is able to give suggestions.

# Research Methodology

## SYSTEM DIAGRAM





# UPTO 50%

- 1 Completion of color cube checker
- 2 Completion of contrast checker
- 3 Completion of above two component integration
- 4 UI design and implementation.



**UPTO 90%**

- 1** Completion of grammar checker to the input pptx
- 2** Completion of blur detection for the input presentation slides
- 3** UI design implementation and System Integration.

# Tools and Technologies



NLP with Python NLTK



Tensorflow and Keras



Python 3.9



Jupyter notebook and  
Pycharm anaconda plugins

Python Django



# ACHIEVEMENTS

**PRESENTLY**

HOME CONTACT US ABOUT US PROFILE LOGOUT

## Slide Quality Checker

**Color Accuracy**  
Color accuracy conveys the true meaning of a motion picture or image  
**CHECK**

**Grammar & visibility Checker**  
Will find each sentence in a text, look up each word in the dictionary  
**CHECK**

**Accessibility Checker**  
Accessibility not check for poor color contrast or inappropriate use of color  
**CHECK**

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Home / Dashboard / Grammar & visibility Checker

### Detecting Grammar & Dull Images

CHOOSE FILE... **BROWSE**  
ALLOW FILES TYPES ARE PPT, PPTX

**EXTRACT**

**Page 1**

This sentence does not start with an uppercase letter.  
to find out issues with the current website and  
Suggestion/Corrections : To

This sentence does not start with an uppercase letter.  
in order to rebuild the website to  
Suggestion/Corrections : In

This sentence does not start with an uppercase letter.  
increase sales  
Suggestion/Corrections : Increase

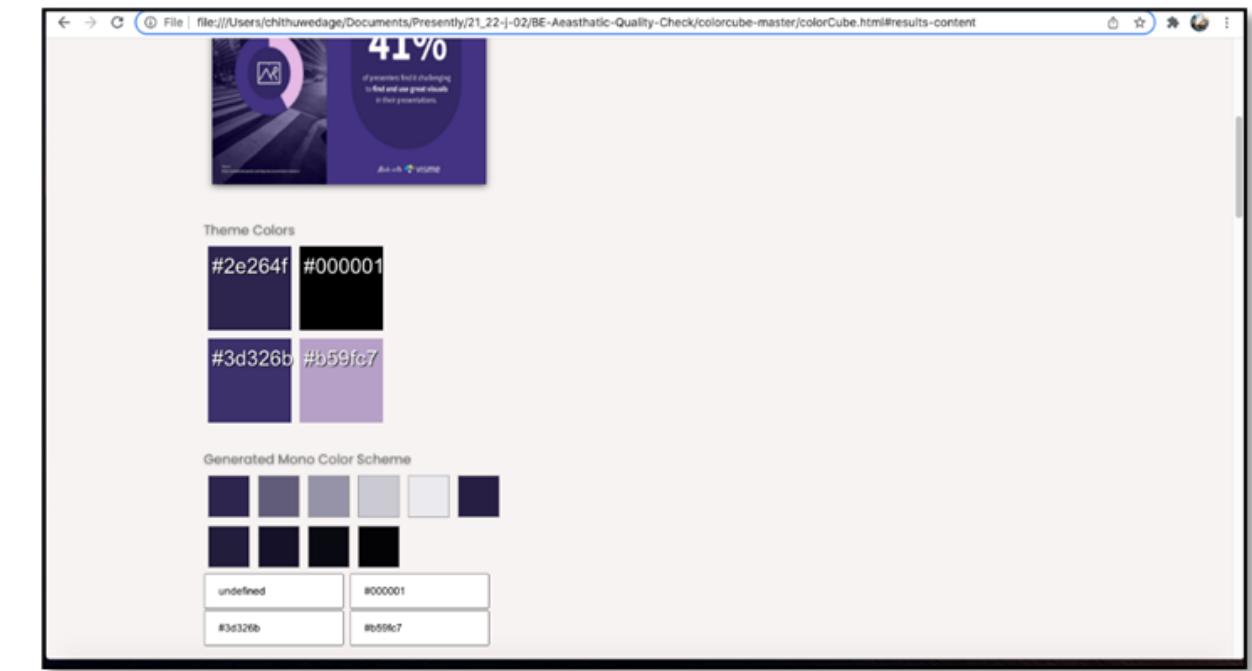
This sentence does not start with an uppercase letter.  
through the website  
Suggestion/Corrections : Through

**Page 2**

Blurry  
Sharpness Value: 19

Did you mean "There are cats"?  
There is cats  
Suggestion/Corrections : There are cats

# ACHIEVEMENTS

A screenshot of a color contrast checker interface. It shows four rows of color combinations under headings: "Original", "Modify", "With light", and "Most legible or Custom". Each row includes color swatches and contrast ratio values (AA, AAA) for both "Normal Text" and "Large Text".

Original	Modify	With light	Most legible or Custom
#000000	#000000	21.00: with #ffffff AAA: 14.00 AA: 16.50 AA: 18.00	1.10: with #101010 AAA: -5.90 AA: -3.40 AA: -1.90 8.75: with #b59fc7 AAA: 1.75 AA: 4.25 AA: 5.75
#000001	#000001	20.99: with #ffffff AAA: 13.99 AA: 16.49 AA: 17.99	1.10: with #101010 AAA: -5.90 AA: -3.40 AA: -1.90 8.74: with #b59fc7 AAA: 1.74 AA: 4.24 AA: 5.74

A screenshot of the "Color Contrast Checker" tool. It features a color picker set to "#105165", a "Saved Colors" section with "Save Color" and "Delete All" buttons, and a main panel displaying contrast ratios for "Normal Text" and "Large Text" across AA, AAA, and AAAA levels. A note explains that a higher contrast ratio indicates better contrast.

Background: #105165

Color Contrast Checker

	Normal Text	Large Text
AA	✓ Pass	✓ Pass
AAA	✓ Pass	✓ Pass

Large Text - 24px/18pt

Contrast ratio is a measure of the difference in perceived brightness between two colors. The higher the ratio, the better the contrast.

Normal Text - 16px

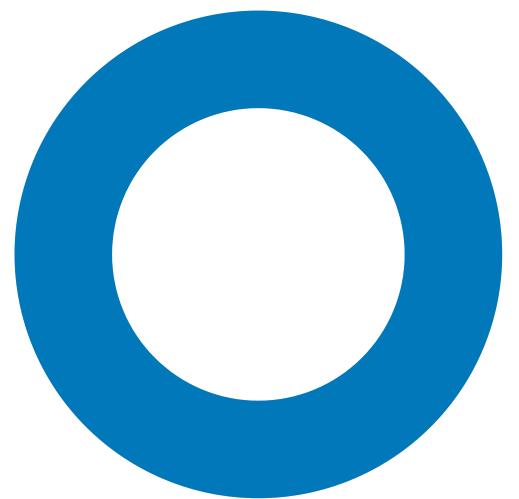
According to Web Content Accessibility Guidelines (WCAG) 2.0, text and images of text should have a minimum contrast ratio of 4.5:1 (Level AA), while large text should have minimum contrast ratio of 3:1. For enhanced contrast (Level AAA), normal text and large text should have minimum contrast ratio of 7:1 and 4.5:1 respectively.

[WCAG 2.0](#) [WebAIM article](#)



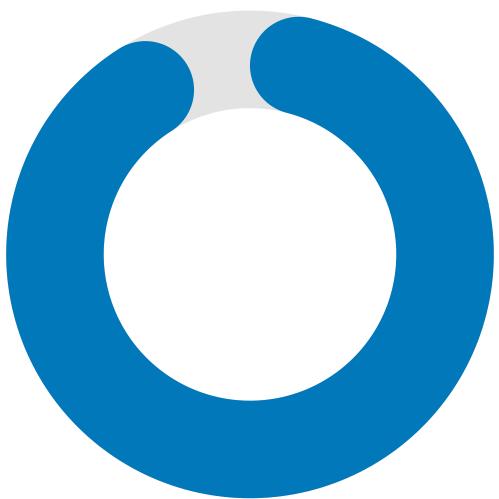
# COMPLETION OF PROJECT

FRONTEND



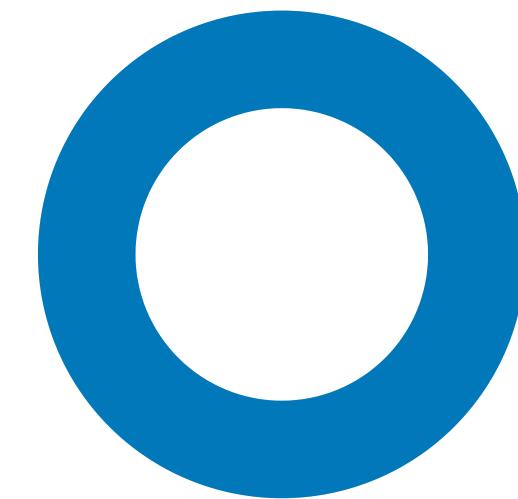
100% done

BACKEND



95% done

COMPONENT



100% done

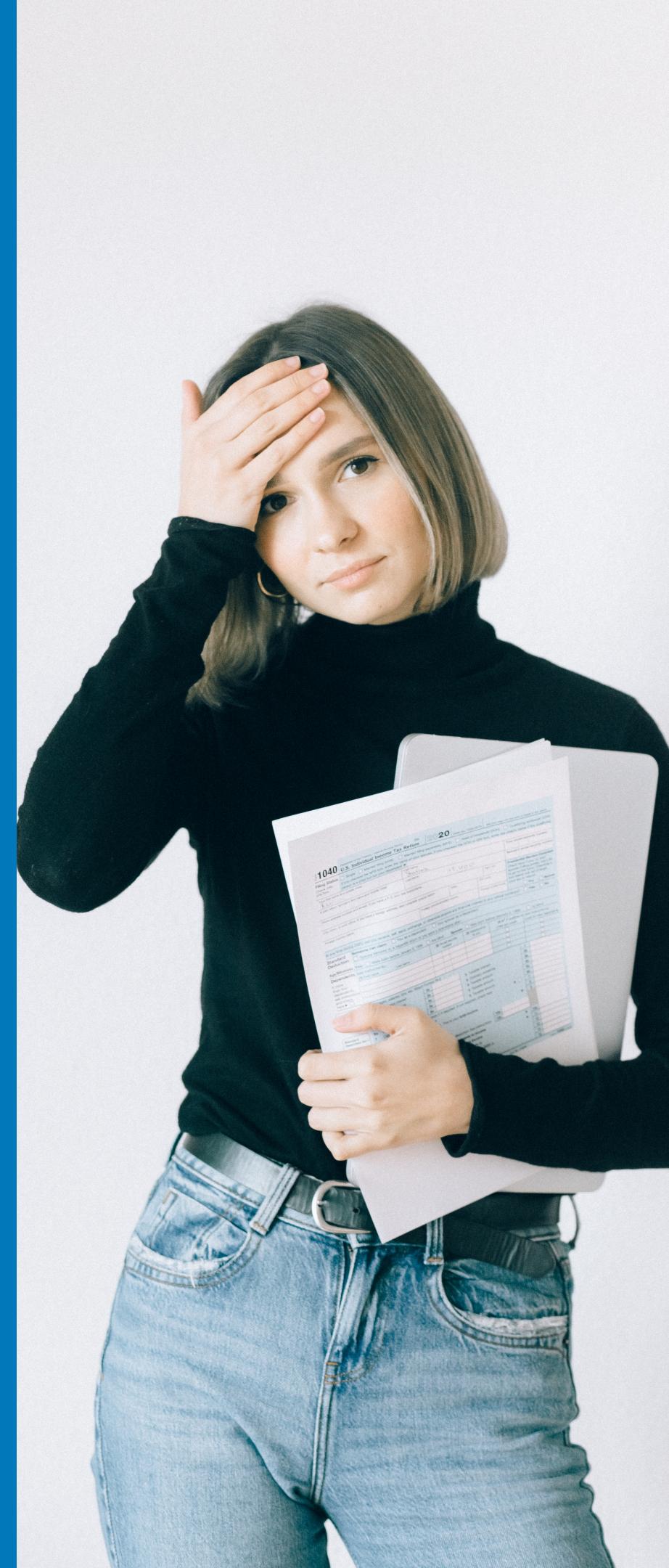


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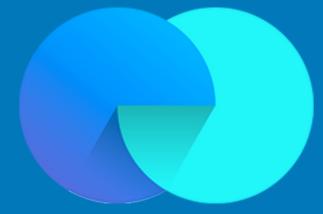
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# RESEARCH PROBLEM



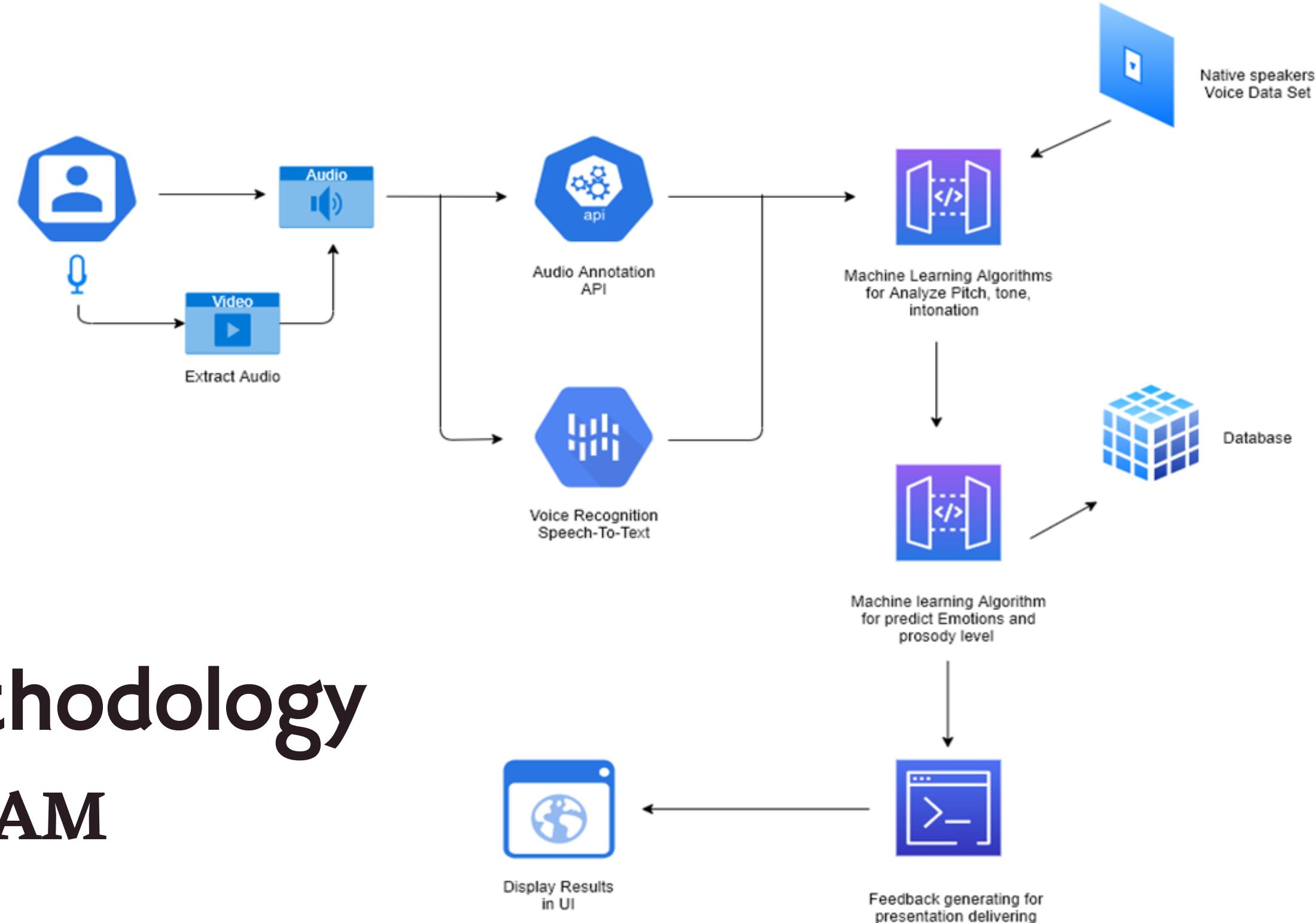
- Inability to detect the prosody features of the speaker.
- Void of a system to detect the emotions during the presentation.



# OBJECTIVES



- Implement more accurate and intelligent application to identify presenters' emotion and prosody levels.



# Research Methodology

## SYSTEM DIAGRAM

PRESENTLY



UPTO 50%

- 1 Identified Datasets for emotions
- 2 UI implementation for user input
- 3 Select feature extraction and create model
- 4 Train model
- 5 Take prediction
- 6 Evaluate and improvements



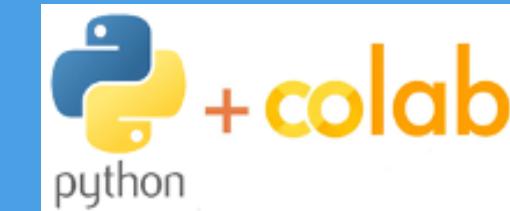
**UPTO 90%**

- 1** According to panel comments, build a model to display summary of emotions
- 2** Complete Prosody features in voice
- 3** Frontend Develop for each functions and Intergrations

# Tools and Technologies



Python 3.9



Praat



Django & Bootstrap



Tensorflow



# ACHIEVEMENTS

**PRESENTLY**

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Home / Dashboard / Emotion-predictions(Audio)

## Emotion & Prosody Detection - Audio

See what presently think about your presentation

Video Review

Emotion detections Real time WARNING!

The Most Used Emotion for this session:

Emotion	Percentage
Neutral	10%
Calm	10%
Happy	10%
Sad	10%
Angry	10%
Fearful	10%
Disgust	10%
Surprised	10%

USAGE OF PROSODY OF YOUR VOICE VIEW SUMMARY DETAILS

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These are fundamental values. If you are aware about these values, use these.

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Home / Dashboard / Emotion-predictions(Audio) / Prosody Detail View

## Prosody Detail View - Audio

Compared to native speech, here are the prosodic features of your speech:

**Number of long pause**

(A Female, Mood of speech: speaking passionately, p-value/sample size :0.00, 5)

Pronunciation posterior probability score percentage  
Pronunciation posterior probability score percentage = 0.945  
This is the summary of that you are pronunciation level. Get higher value for this. You are good.

Gender recognition and mood of speech  
(A Female, Mood of speech: speaking passionately, p-value/sample size :0.00, 5)  
Available detections are Showing no emotion, speaking passionately and Reading.

Prosodic features of your speech  
Try again the sound of the audio was not clear.  
You can check other prosodic feature from here.

Detect and count number of syllables  
(Number of syllables = 524)  
A unit of pronunciation having one vowel sound, with or without surrounding consonants, forming the whole or a part of a word; for example, there are two syllables in water and three in stems.

Detect and count number of fillers and pauses  
(Number of pauses = 63)  
In speech, filler words are short, meaningless words (or sounds) we use to fill the little pauses that occur while we decide what we're going to say next. They're the ums and uh's and ers that litter our conversations whether we like it or not.

Measure the rate of speech (speed)  
(Rate of speech = 1.3, # syllables/sec original duration)  
Speech rate refers to a person's habitual speaking speed. It's calculated through counting the normal number of words they say per minute, and just like people, words per minute depend on how they speak.

Measure the articulation (speed)  
(Articulation Rate = 5, # syllables/sec speaking duration)  
Articulation is how clearly the speaker pronounces words.

Measure speaking time  
(Speaking duration = 108.4, # sec only speaking duration without pauses)  
(Original duration = 102.8, # sec total speaking duration with pauses)  
(Volume = 0.7, # ratio (speaking duration)/(original duration))  
From total duration This is your total speaking time.

Measure fundamental frequency distribution mean  
(10 mean = 239.65, # Hz global mean of fundamental frequency distribution)  
(10 sd = 55.29, # Hz global standard deviation of fundamental frequency distribution)  
(10 M0 = 232.7, # Hz global median of fundamental frequency distribution)  
(10 min = 179, # Hz global minimum of fundamental frequency distribution)  
(10 max = 402, # Hz global maximum of fundamental frequency distribution)  
(10 quantile = 200, # Hz global 25th quantile of fundamental frequency distribution)  
(10 quantile = 275, # Hz global 75th quantile of fundamental frequency distribution)

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```
[ ] # Test set prediction accuracy rates

values = cm.diagonal()
row_sum = np.sum(cm, axis=1)
acc = values / row_sum

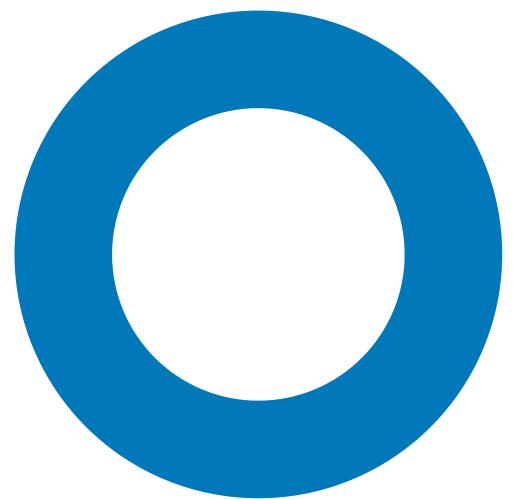
print('Test set predicted emotions accuracy:')
for e in range(0, len(values)):
    print(index[e],':', f'{(acc[e]):0.4f}')

Test set predicted emotions accuracy:
neutral : 0.8947
calm : 0.8000
happy : 0.9524
sad : 0.8696
angry : 0.8462
fearful : 0.7778
disgust : 0.8696
surprised : 0.7143
```



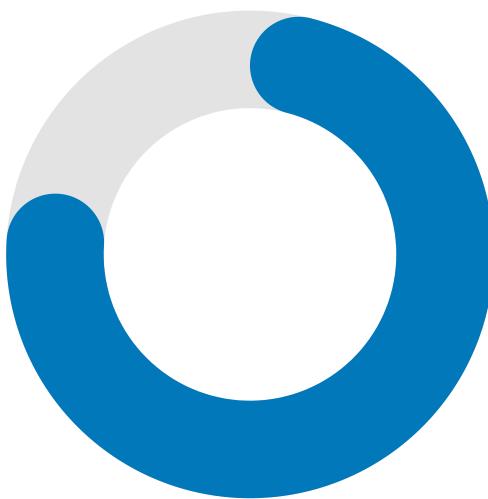
# COMPLETION OF COMPONENT

FRONTEND



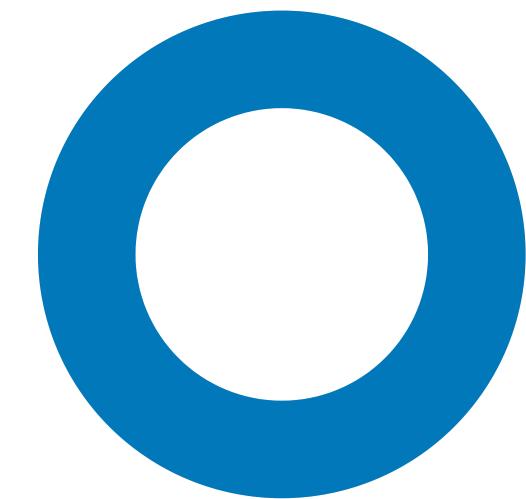
100% done

BACKEND



80% done

COMPONENT



100% done



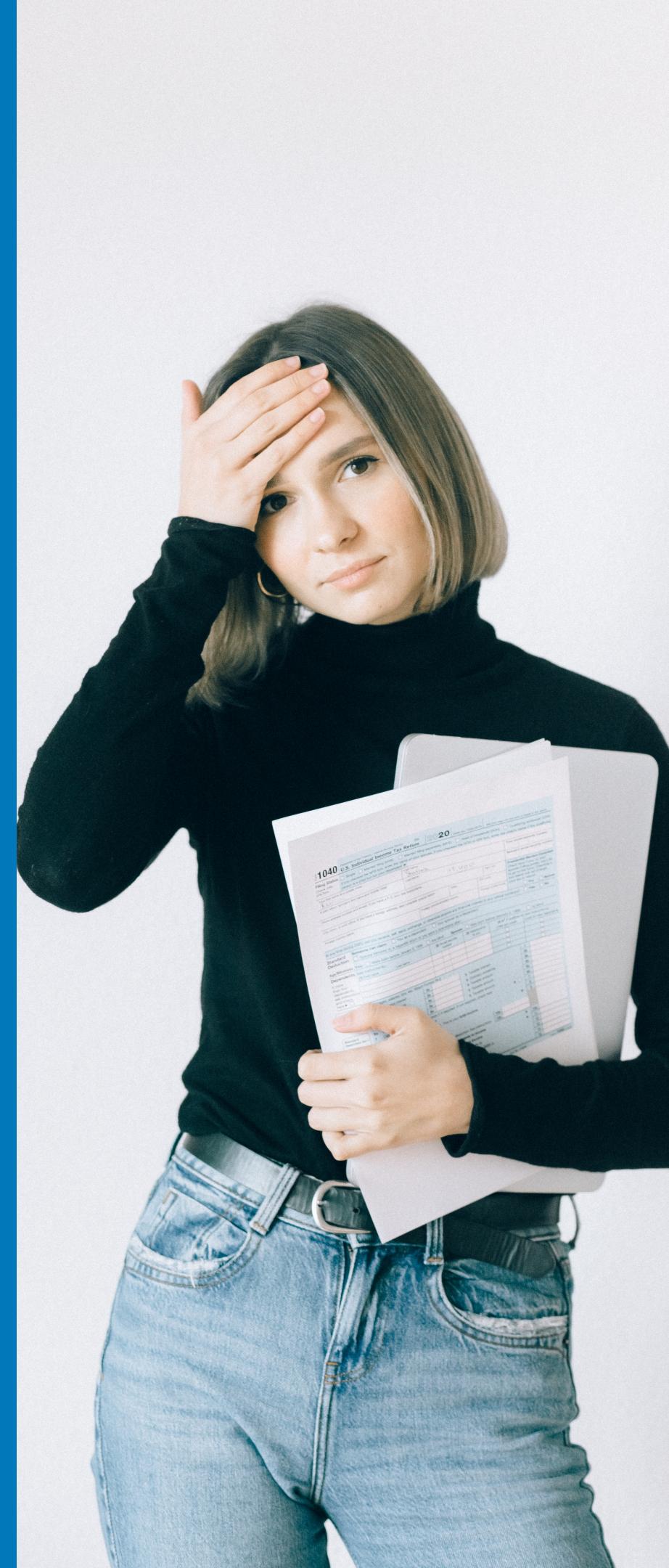
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# RESEARCH PROBLEM



Inability to self-evaluate presenting emotions and body language postures due to a lack of an appropriate method or instrument.

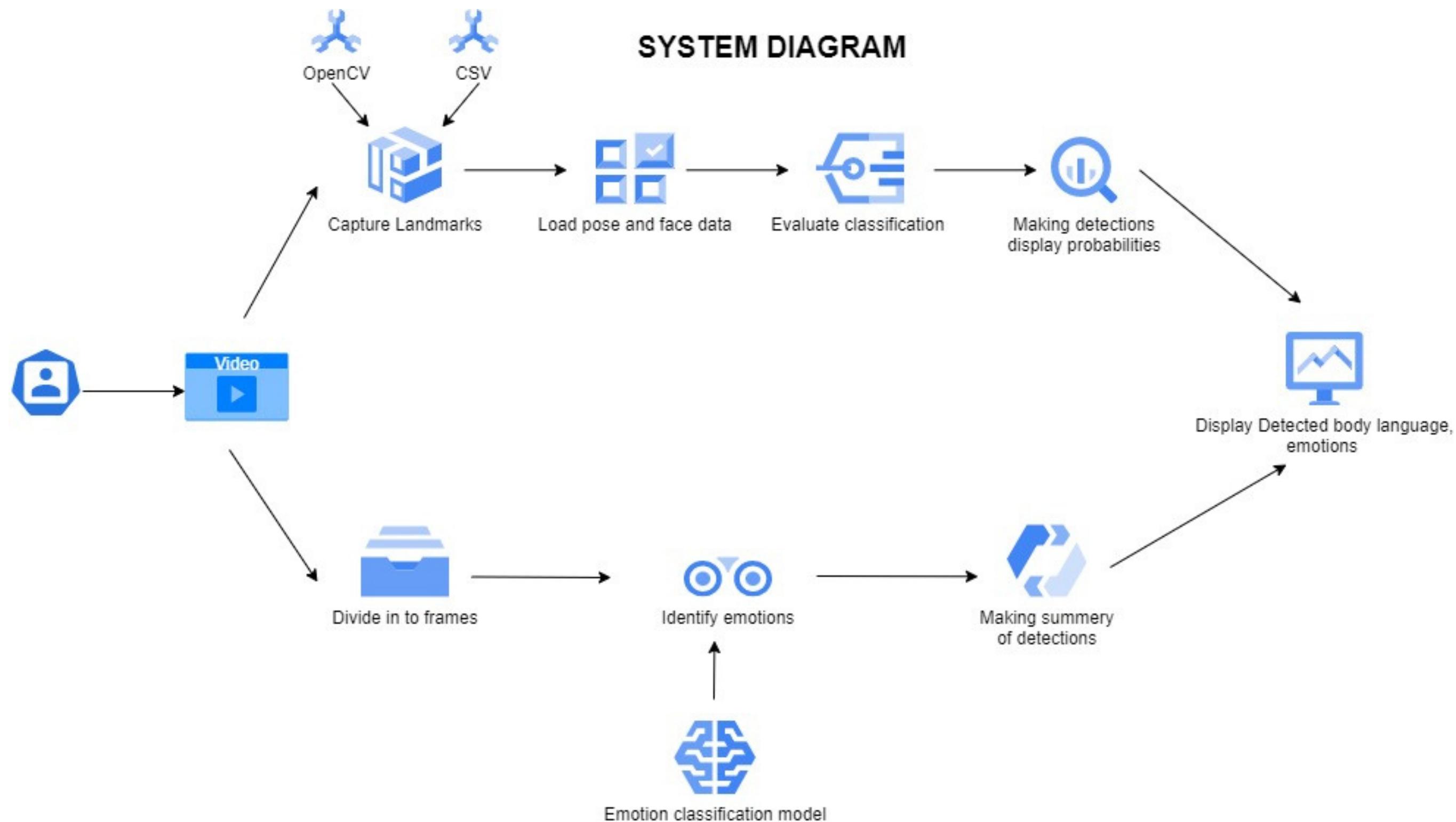


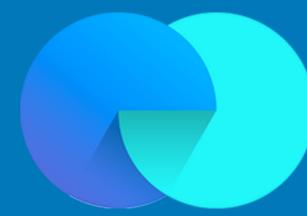
# OBJECTIVES



- Correctly extract the related emotions and body language postures from the uploaded video
- Identify the presenters' emotions and body language using video analysis
- Suggest user, what are the emotions, hand gestures that she/he mostly used in the presentation

# Research Methodology





# UPTO 50%

- 1 Identified datasets for facial emotions
- 2 Emotion Classification Model Building using Convolutional Neural Network (CNN)
- 3 Detect Basic seven emotions from the video
- 4 Getting the most used Emotion in the video



UPTO 90%

- 1 Build datasets for Body Language detection
- 2 Build a model to detect Nervousness, Confidence and Neutral body languages
- 3 Integrate the emotion detection model with frontend

# Tools and Technologies



Google Colab



Mediapipe



TensorFlow & Keras



Convolutional Neural Network

Django & Bootstrap



# ACHIEVEMENTS

```
for algo, model in fit_models.items():
    yhat = model.predict(X_test)
    print(algo, accuracy_score(y_test, yhat))
[58] ✓ 0.2s
... lr 0.972972972973
      rc 1.0
      rf 1.0
      gb 0.990990990990991
```

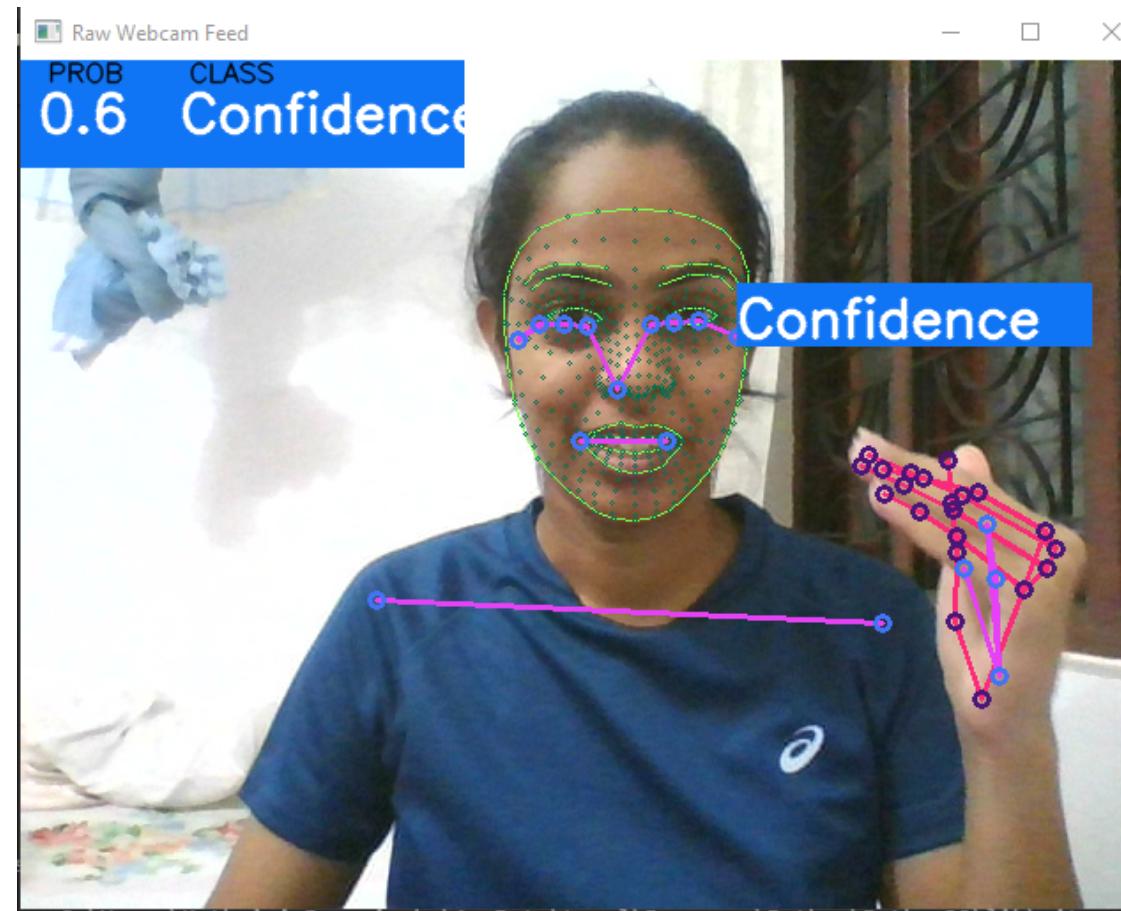
Accuracies of Body language model

```
Epoch 1/48
225/225 [=====] - 25s 107ms/step - loss: 0.9276 - accuracy: 0.6493 - val_loss: 1.0065 - val_accuracy: 0.6257
Epoch 2/48
225/225 [=====] - 24s 105ms/step - loss: 0.8897 - accuracy: 0.6647 - val_loss: 0.9973 - val_accuracy: 0.6339
Epoch 3/48
225/225 [=====] - 24s 106ms/step - loss: 0.8658 - accuracy: 0.6751 - val_loss: 0.9960 - val_accuracy: 0.6348
Epoch 4/48
225/225 [=====] - 24s 106ms/step - loss: 0.8455 - accuracy: 0.6809 - val_loss: 0.9971 - val_accuracy: 0.6301
Epoch 5/48
225/225 [=====] - 23s 104ms/step - loss: 0.8167 - accuracy: 0.6925 - val_loss: 1.0315 - val_accuracy: 0.6315
Epoch 6/48
225/225 [=====] - 24s 105ms/step - loss: 0.8035 - accuracy: 0.6981 - val_loss: 0.9890 - val_accuracy: 0.6435
Epoch 7/48
225/225 [=====] - 23s 103ms/step - loss: 0.7882 - accuracy: 0.7043 - val_loss: 1.0035 - val_accuracy: 0.6357
Epoch 8/48
225/225 [=====] - 24s 105ms/step - loss: 0.7732 - accuracy: 0.7144 - val_loss: 0.9881 - val_accuracy: 0.6449
Epoch 9/48
225/225 [=====] - 24s 106ms/step - loss: 0.7573 - accuracy: 0.7182 - val_loss: 0.9920 - val_accuracy: 0.6445
Epoch 10/48
225/225 [=====] - 24s 107ms/step - loss: 0.7404 - accuracy: 0.7254 - val_loss: 0.9877 - val_accuracy: 0.6462
Epoch 11/48
225/225 [=====] - 24s 107ms/step - loss: 0.7251 - accuracy: 0.7291 - val_loss: 0.9981 - val_accuracy: 0.6482
Epoch 12/48
225/225 [=====] - 24s 105ms/step - loss: 0.7096 - accuracy: 0.7363 - val_loss: 1.0051 - val_accuracy: 0.6507
Epoch 13/48
225/225 [=====] - 24s 106ms/step - loss: 0.6895 - accuracy: 0.7428 - val_loss: 1.0080 - val_accuracy: 0.6493
Restoring model weights from the end of the best epoch.
```

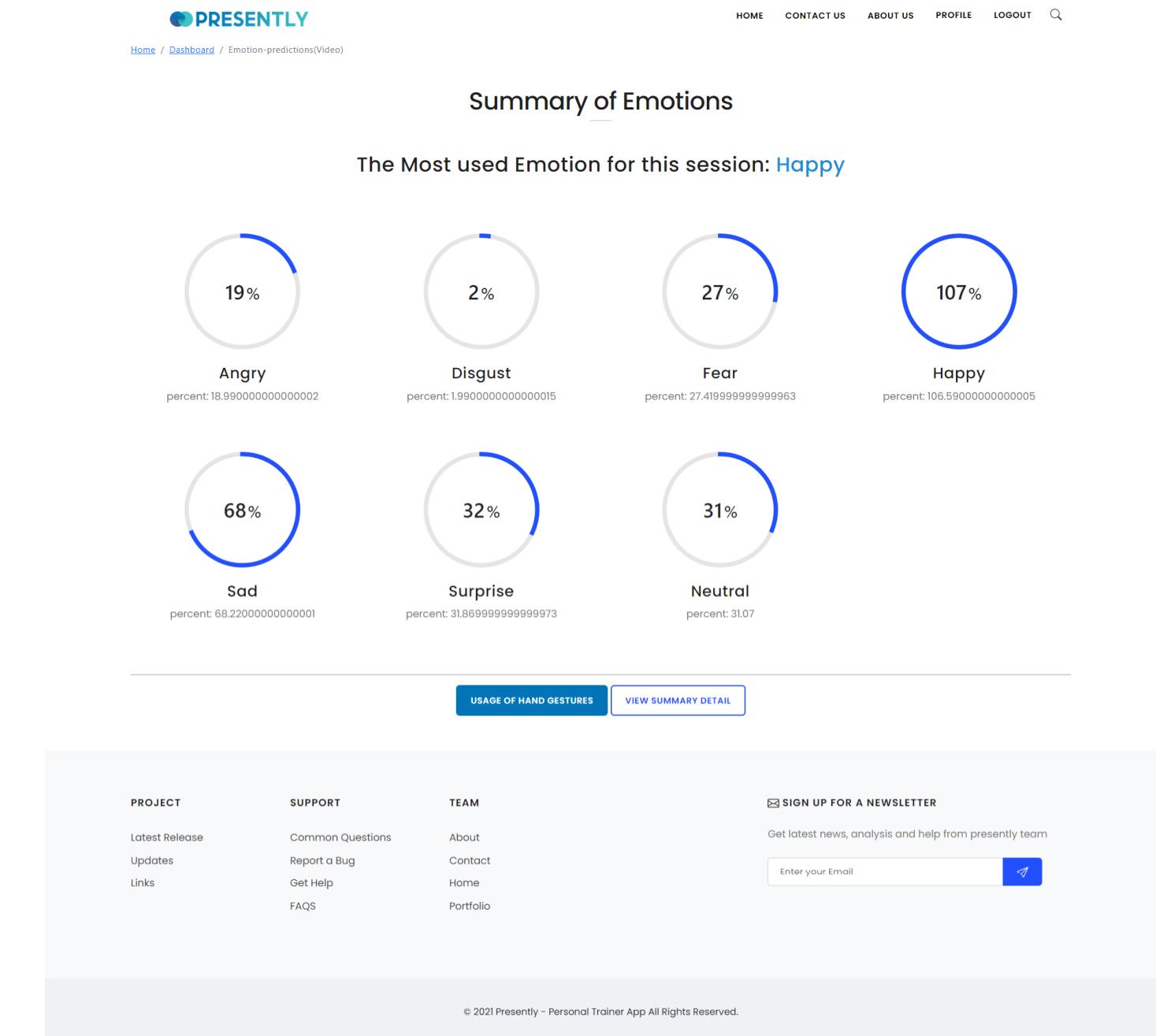
Accuracy of Emotion Detection Model

- 74% accuracy from Emotion Detection Model
- 97% accuracy from Body Language Detection Model

# ACHIEVEMENTS



Raw web cam feed of Body Language detection part

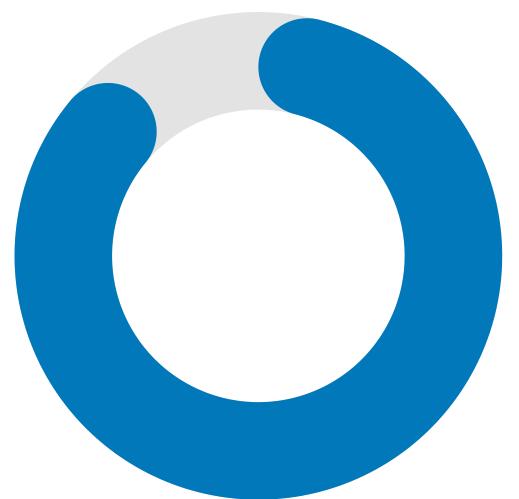


Frontend of Emotion Detection Component



# COMPLETION OF PROJECT

FRONTEND



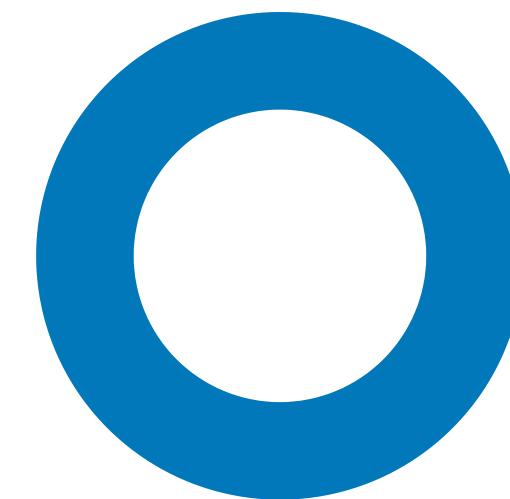
90% done

BACKEND

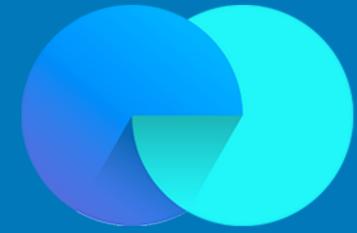


85% done

COMPONENT



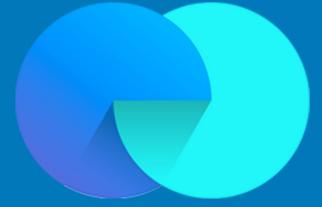
100% done



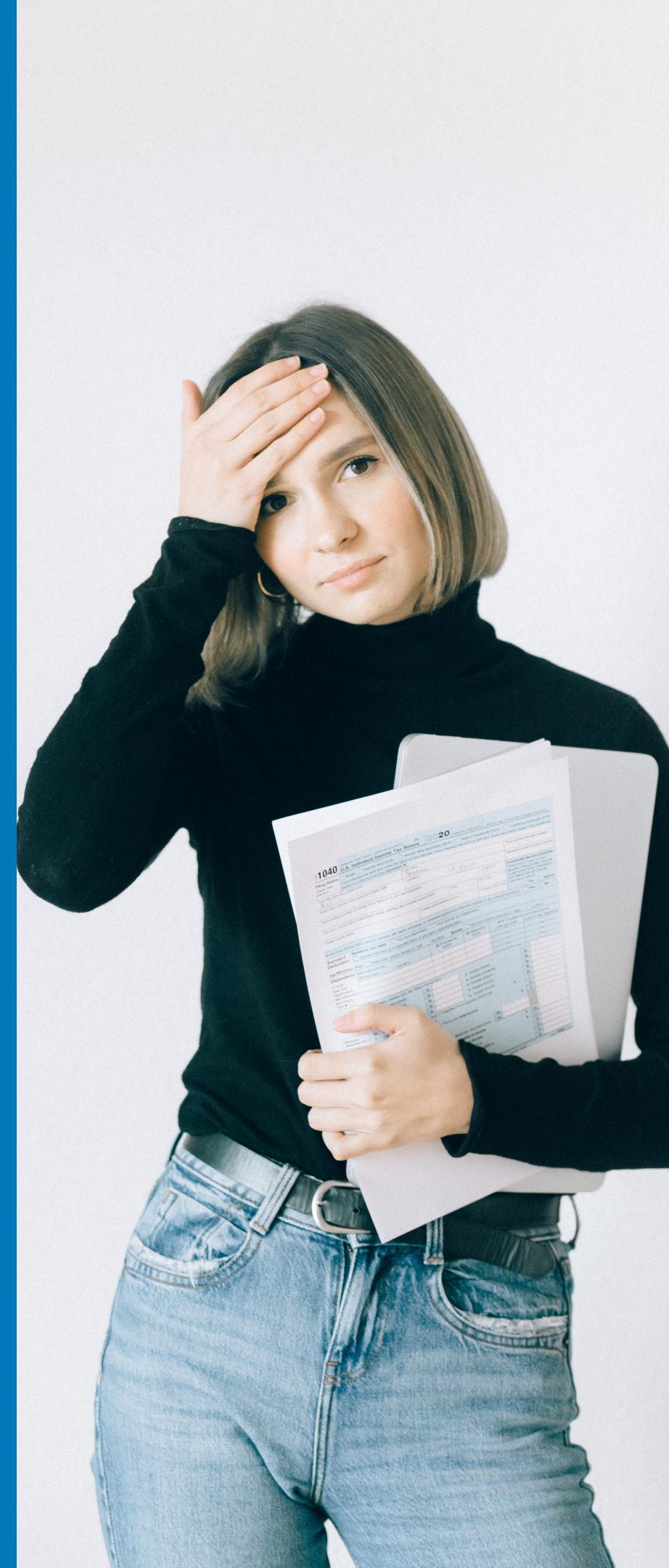
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# RESEARCH PROBLEM



Identifying possible pronunciation issues that could arise throughout the presentation

Evaluation of grammatical mistakes in enhancing the audience's understanding of the presentation



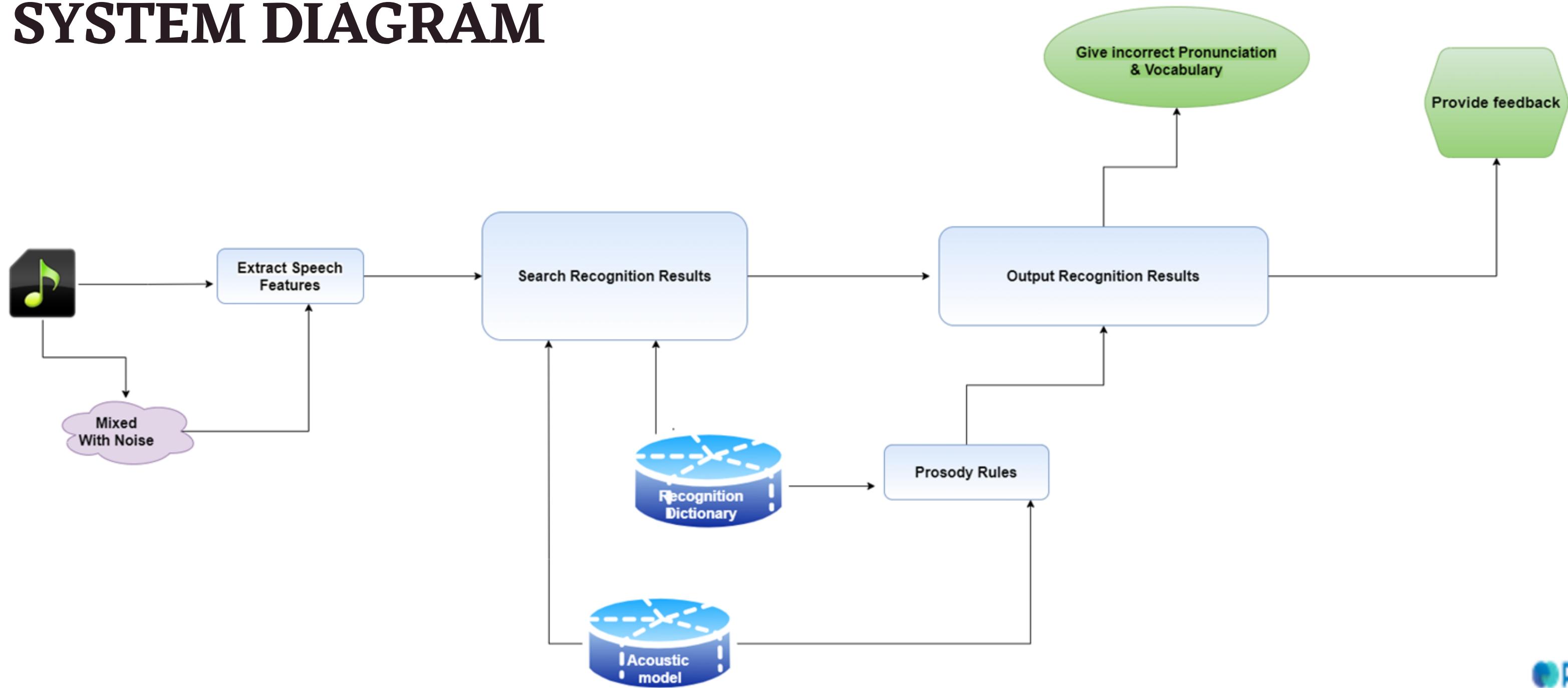
# OBJECTIVES



- Detection of the possible pronunciation mistakes that will occur during the presentation
- Analyzation of sentence grammatical errors to make the presentation more accurate to the audience

# Research Methodology

## SYSTEM DIAGRAM



PRESENTLY



# UPTO 50%

- 1 Converted speech to text
- 2 Converted text to speech
- 3 Audio signal analysis
- 4 Train model
- 5 Take prediction
- 6 Evaluate and improvements



UPTO 90%

- 1 Feature extraction- audio files
- 2 Data collection - grammar correction
- 3 Model Training
- 4 Grammatical error detection
- 5 Integrate with frontend

# Tools and Technologies



Jupyter Notebook



happy transformer

Python 3.9

TensorFlow



Python Django



# ACHIEVEMENTS

 PRESENTLY

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Home / Dashboard / Pronunciation and Grammer errors

## Pronunciation and Grammer Suggestions

See what presently think about your presentation

Grammer Suggestions Pronunciation Errors

You have said..

" every presentation is an opportunity to make an impression you can I do you your pitch to build credibility in cage mint and the chance to children story in a way that sell your messages if you don't have to your audience's attention in the first minute you miss the moment when you need to get on board and its a link that it is possible to establish and the broom on the topic and signal with your come to the audience can just relax you get this but this happens here are the presentation open.ica over and over again hello sinks and here there thanks for being with me today Star pipe sizing for no no no a presentation opening is your promised Revolutionary farmer that is meeting is going to be boring it best and Ms at most a great introduction promise is the audience with this presentation will be increasing innovative educational and maybe even inspiring to do that you need to stop being so polite and stopping more passionate to open it comes in two weeks into building at activating that spend days making sure our numbers add up and wake up at night working out whether you've incorporated all the latest changes from your team you are better or spending a few of those minut making sure that you start is a strong salad and sizzling as the rest of your presentation speech openings to get you started II and showed up for my first they would I mistakenly for that 2 5 10 20 years ago I never could imagine that was for I will never forget the first time that five what do you do in my shoes so here is what happened I have a confession to make 7 I was brought up to believe it among my friends I am famous 49 I don't like to admit it but then something you never gas about me is one of my favourite sayings is star human to go in other words if you start early you go on to make a powerful impact"

What  PRESENTLY Suggest to say...

if you don't have to your audience's attention in the first minute you miss the moment when you need to get on board if you don't have to your audience's attention in the first minute you miss the moment when you need to get on board if you don't have to your audience's attention in the first minute you miss the moment when you need to get on board if you don't have to your audience's attention in the first minute you miss the moment when you need to get on board

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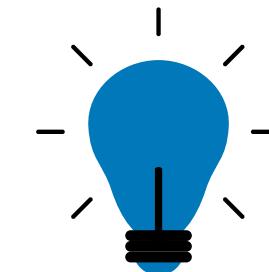


# COMMERCIALIZATION

- **Target Audience**

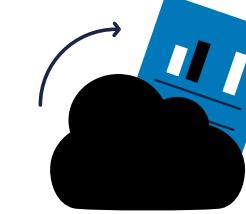
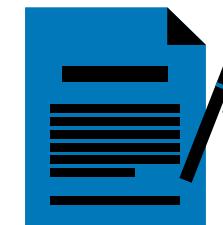
Employees in any industry

University Students and lecturers



- **Free Application**

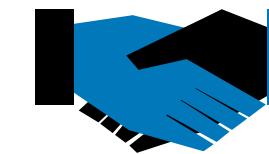
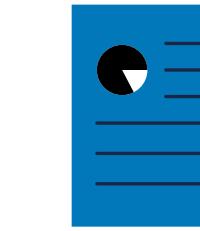
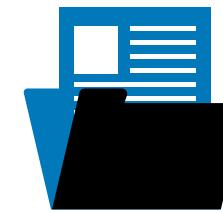
Free Access to the application

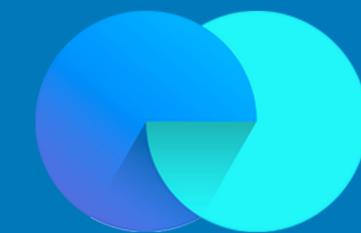


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