# YouTube Video Summarizer

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### **Problem Statement**

You don't have time to watch an important and educational YouTube video. Just want to watch a summary.

You have watched a podcast and wants to create a summary of it.

YT video is in unknown language. You want a summary in english.

Fews minutes are left for exam and you don't have time to watch the whole YT video, would prefer a summary.

#### WHAT IS THE SOLUTION?

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## YouTube Video Summarizer!!

Just paste the link of the YT video and you will get a summary of its audio and visual content.

## **Process WorkFlow**

Download YT video

**Extract Audio** 

**Extract Transcript** 

First we will download the video from YouTube using pytubefix library.

Next, we will extract the audio from the video using moviepy library.

Next, we will extract transcript from the audio file. It also works for multi - language.

## **Process WorkFlow**

**Create Frames** 

**Object Detection** 

**Text Detection** 

Now, we will create or extract frames from the video for every 1 second.

Next, we will detect objects in every frame using YOLO v8 model. We will store the frame number and the objects detected in that particular frame in a list in the form of a string.

Next, we will extract text on screen for frame and store in the frame number and text in a list in the form of string.

## **Process WorkFlow**

#### ChatGPT

Finally we will provide the transcript, objects detected and text extract as input to OpenAI model and ask the model to generate a summary for us.



## Advantages

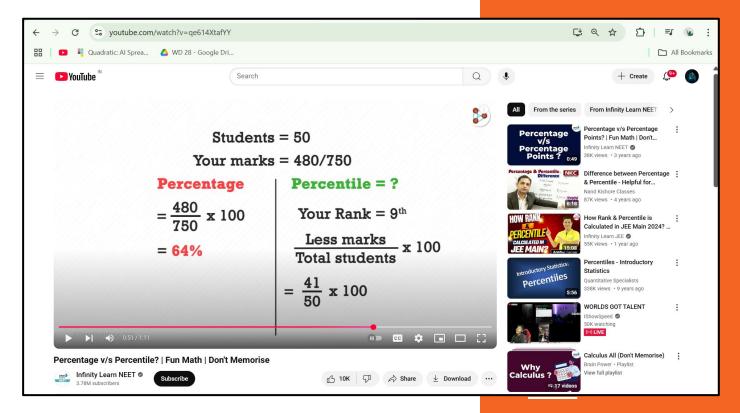
- → Multi-lingual
- → Summarization of audio as well as video
- → Accurate summaries using ChatGPT



## Disadvantages

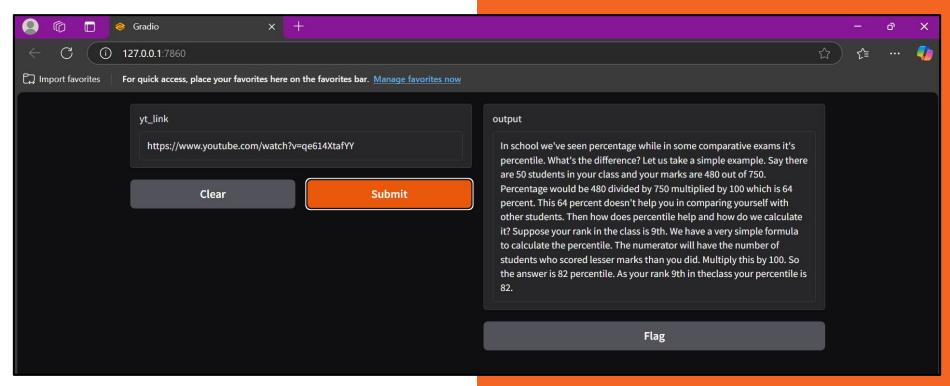
- Slow processing
- → Take more time for longer videos
- Right now, I do not paid version of ChatGPT, therefore I have used hugging face transformer for generating summary and have only provide transcript of the video.
- → I have include the code for Chat GPT as well. All I need is the API key for interacting with AI model.

### **Example Input of YT video**



Llnk: - https://www.youtube.com/watch?v=qe614XtafYY

## **Example Output of YT video**



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## Thank You!!