
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?

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

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

Extract Audio

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

Extract Transcript

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

Process WorkFlow

Create Frames

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

Object Detection

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.

Text Detection

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

The screenshot shows a YouTube video player with the URL [youtube.com/watch?v=qe614XtafYY](https://www.youtube.com/watch?v=qe614XtafYY). The video content is a math tutorial titled "Percentage v/s Percentile? | Fun Math | Don't Memorise". The video is split into two columns by a vertical line. The left column, titled "Percentage" in red, shows the calculation: $\text{Percentage} = \frac{480}{750} \times 100 = 64\%$. The right column, titled "Percentile = ?" in green, shows the calculation: $\text{Percentile} = \frac{\text{Less marks}}{\text{Total students}} \times 100 = \frac{41}{50} \times 100$. The video player interface includes a search bar, a "Create" button, and a list of recommended videos on the right. The video title "Percentage v/s Percentile? | Fun Math | Don't Memorise" is displayed below the video player, along with the channel name "Infinity Learn NEET" and a "Subscribe" button.

Students = 50
Your marks = 480/750

Percentage

$$= \frac{480}{750} \times 100$$
$$= 64\%$$

Percentile = ?

Your Rank = 9th

$$= \frac{\text{Less marks}}{\text{Total students}} \times 100$$
$$= \frac{41}{50} \times 100$$

Percentage v/s Percentile? | Fun Math | Don't Memorise

Infinity Learn NEET
3.78M subscribers

10K | Share | Download

Recommended videos:

- Percentage v/s Percentage Points? | Fun Math | Don't Memorise
- Difference between Percentage & Percentile - Helpful for...
- How Rank & Percentile is Calculated in JEE Main 2024? ...
- Percentiles - Introductory Statistics
- WORLD'S GOT TALENT
- Calculus All (Don't Memorise)

Link: - <https://www.youtube.com/watch?v=qe614XtafYY>

Example Output of YT video

Gradio

127.0.0.1:7860

Import favorites For quick access, place your favorites here on the favorites bar. [Manage favorites now](#)

yt_link

Clear

Submit

output

In school we've seen percentage while in some comparative exams it's percentile. What's the difference? Let us take a simple example. Say there are 50 students in your class and your marks are 480 out of 750. Percentage would be 480 divided by 750 multiplied by 100 which is 64 percent. This 64 percent doesn't help you in comparing yourself with other students. Then how does percentile help and how do we calculate it? Suppose your rank in the class is 9th. We have a very simple formula to calculate the percentile. The numerator will have the number of students who scored lesser marks than you did. Multiply this by 100. So the answer is 82 percentile. As your rank 9th in the class your percentile is 82.

Flag

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Thank You!!