

Department of Information Technology
III B.Tech I Semester MiniProject 2023-2024
Submitted by
Batch -07

YOUTUBE TRANSCRIPT SUMMARIZER

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ABSTRACT

The YouTube summarizer is a digital tool that uses natural language processing to condense lengthy YouTube videos into concise summaries, offering key insights and information. It aims to save time, enhance accessibility, and improve the overall viewing experience for both content creators and viewers. The tool benefits from advanced algorithms and machine learning models to analyze topics, key points, and timestamps. Successful implementation requires consideration of system requirements, including hardware specifications, providing increased accessibility for individuals with disabilities or limited time while facilitating knowledge sharing and research.

INTRODUCTION

1. The YouTube viewership reached around 2.3 billion in 2020 and continues to grow rapidly.
2. Approximately 300 hours of YouTube videos are uploaded every nanosecond.
3. A Google study revealed that nearly one-third of YouTube users in India access videos on their mobile devices, spending over 48 hours per month on the platform.
4. Despite the vast content available, finding specific information in lengthy videos is frustrating and time-consuming.
5. Existing machine learning-based video summarization methods often require substantial processing power and time due to the numerous frames in each video.



PROBLEM STATEMENT

- Throughout the day, a growing volume of video content is being generated and shared on the internet. The challenge arises as longer videos demand more time, and there's no guarantee of extracting valuable information. Automating the summarization of video transcripts becomes crucial, enabling quick identification of key patterns and saving time and effort in comprehending the entire content.

LITERATURE SURVEY

TITLE	AUTHOR	OBJECTIVE	METHOD OLOGY	FEATURES	DATE OF PUBLISH
Automated Youtube Video Transcription	P Nagaraj; B Rohith; B Sai Vasanth; G Veda Varshith Reddy; A Koushik Teja	Creates a Python video summarization system emphasizing audio for efficient content retrieval and browsing.	Build a module that generates audio paraphrases from transcribed text, preserving key statements and concepts with NLP techniques for contextual accuracy.	<ul style="list-style-type: none">• Speech Recognition Integration• Audio Paraphrasing• Summary Integration	24-05-2023
Video Transcript Summarizer	Atluri Naga Sai Sri Vybhavi; Laggiseti Valli Saroja; Jahnvi Duvvuru; Jayanag Bayana	Design a globally accessible system for summarizing and providing educational content, considering language diversity and cultural nuances	Integrate modules for popular web platforms (YouTube, Facebook, Google, Instagram), using platform-specific APIs to fetch video transcripts and metadata for summarization.	<ul style="list-style-type: none">• NLP-Driven Key Element Identification• Educational Content Prioritization• Global Accessibility Considerations	14-04-2022

	Title	Author	Objective	Methodology	Features	Date of Publish
	Text Summarizer Transcript Genarator	Eesha Inamdar, Varada kalaskar, Vaidehi Zade	Uses NLP techniques to identify key elements in YouTube video transcripts, extracting important phrases, keywords, and contextual information..	Use Spacy for preprocessing (cleaning, stop word removal), frequency normalization, and calculating sentence weightage to generate concise and informative summaries	<ul style="list-style-type: none"> • Spacy Integration • Frequency Normalization • Text Preprocessing • Weighted Sentence Calculation 	2022
	Youtube Transcpt Summarizer	Gousiya Begum, N.Musurat Sultana, Dharma Ashritha	This project aims to alleviate the challenges posed by the overwhelming volume of online video content, where creators may prioritize views over content accuracy.	Devolops using Spacy for effective text summarization , mitigating misleading content on YouTube	<ul style="list-style-type: none"> • Misleading Content Mitigation • User Empowerment • Deployment Versioning 	03-03-2022

EXISTING SYSTEM

The current working/processing of summarizer is not at its best speed accuracy or satisfactory fast. Whenever a user performs summarization, the summarization is only available for the videos who already have subtitle eligibility.

- Subtitle eligible video
- Transcript summary is not at its accuracy level.

DISADVANTAGES

- Suboptimal speed, accuracy, and efficiency.
- Dependency on videos with pre-existing subtitles.
- Error handling for large videos (exceeding 1024-word limit).

PROPOSED SYSTEM

- The proposed YouTube transcript summarizer chrome extension aims to enhance the user experience by offering real-time abstractive summarization of video transcripts. The extension will seamlessly integrate with the YouTube platform, providing one-click summarization. Leveraging transformer models, it ensures efficient summarization, with dynamic word limit handling and automatic subtitle extraction.

ADVANTAGES

- Speed
- Accuracy
- Larger videos eligible for summarization
- Summarization of no-subtitle eligible videos

SYSTEM REQUIREMENTS

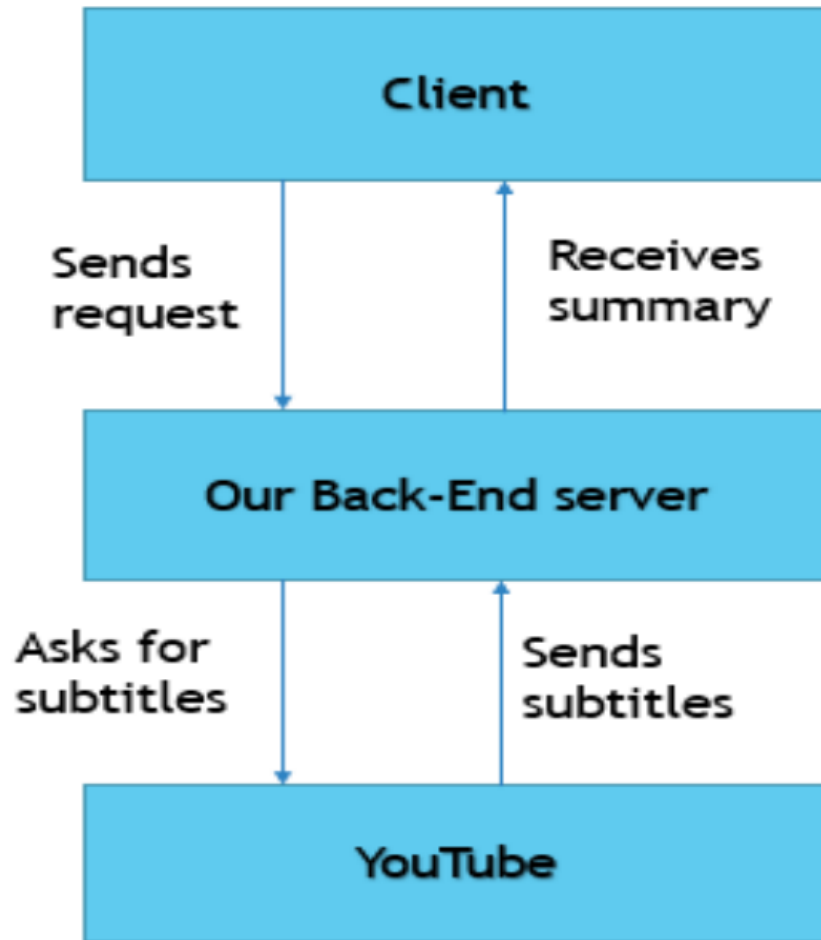
HARDWARE REQUIREMENTS:

- System : Pentium i3 Processor.
- Hard Disk : 500 GB.
- Monitor : 15” LED
- Input Devices : Keyboard, Mouse
- Ram : 4 GB

SOFTWARE REQUIREMENTS:

- Operating system : Windows 10.
- Coding Language : Python
- Web Framework : Flask

SYSTEM ARCHITECTURE



IMPLEMENTATION

MODULE DIVISION

CLIENT:

- Open a YouTube video and click on Summarize in Chrome extension.
- Request Transcript for a given YouTube Video.

SYSTEM:

- Perform Transcript Summarization
- Display the summarized transcript on the extension.

RESULT

Browser window showing a YouTube video player and a transcript summarizer overlay.

Browser Tab: (27) JACK MA'S MOST INFLUENTIAL MOTIVATIONAL SPEECH: Motivation for Success

URL: youtube.com/watch?v=NCBUaklbrw0

YouTube Video Player:

- Video Title:** JACK MA'S MOST INFLUENTIAL MOTIVATIONAL SPEECH: Motivation for Success
- Channel:** MOTIVATION FOR SUCCESS (25.7K subscribers)
- Views:** 860K views 7 months ago
- Hashtags:** #jackmaspeech #morningmotivation
- Video Content:** A motivational speech by Jack Ma with the text "Make Your Own FUTURE" overlaid.

Youtube Transcript Summarizer Overlay:

- Text:** Summarising...

Recommended Videos:

- JACK MA'S SPEECH: INNOVATION - Where Do Ideas Come From?** (44K views • 5 months ago)
- JACK MA'S MASTERCLASS FOR ENTREPRENEURS: Motivation for Success** (12K views • 6 months ago)
- JACK MA IN AFRICA: A CONTINENT FULL OF OPPORTUNITIES** (927 views • 6 months ago)
- JACK MA'S MOTIVATIONAL SPEECH: Globalization - A New Opportunity for Everyone** (2.8K views • 4 months ago)
- MOTIVATION FOR SUCCESS!! The Most Influential Speech** (333 views • 7 months ago)
- OVERCOME YOUR OBSTACLES: MOTIVATION FOR SUCCESS** (202 views • 1 month ago)

System Tray: 23°C Haze, Search, Taskbar icons, Date: 05-01-2024, Time: 12:00

(no subject) - 22r25a1216@mln

PM Rishi Sunak meets with

youtube.com/watch?v=4xYCxy-tDpU

Gmail YouTube Maps

YouTube

Search

10

PM Rishi Sunak meets with the man who survived four concentration camps

10 Downing Street

241K subscribers

Subscribe

287

Share

Download

16K views 11 months ago 10 DOWNING STREET

Youtube Transcript Summariser

Summarise

{ "summary": "the number [Music] b7608 was my name and that was my number anytime they wanted me they called me by the number . when I got the number I knew I had a chance 11 years old then my whole family was killed everybody yeah . right now that mother father and brothers sisters never seen that I've lost 84 members . I tell them my story yeah and then I say to them at the end and to be good to be to respect people the relative and so on . this is not what the color of your skin is we're all human beings we are all entitled to live on this Earth in peace and quiet yeah foreign . " }

The Guardian

2:05

RISHI SUNAK BECOMES UK PM

16:42

Rishi Sunak Family Tree

7:52

The Guardian

1:33

say he had no working-class...

Guardian News

288K views • 1 year ago

Rishi Sunak Selected as U.K. Prime Minister & U.S. Test...

The Daily Show

5.8M views • 1 year ago

Rishi Sunak Family Tree | Britain's New Prime Minister

UsefulCharts

601K views • 1 year ago

Rishi Sunak refuses to apologise for Britain's slavery...

Guardian News

English (United States)
English (India)

To switch input methods, press Windows key + space.

23°C Haze

Search

48

ENG IN

23:08 03-01-2024

CONCLUSION

- YouTube transcript summarizer Chrome extension streamlines information consumption, offering users a quick overview of video content. By leveraging natural language processing, it enhances accessibility, enabling efficient decision-making about which videos to engage with. This tool contributes to a more effective learning and information-sharing environment on YouTube, saving users time and improving their overall experience.



Thank
you