



Tomasz Ayobahan | Tyler Hoekstra  
Isaac Joffe | David Onchuru





# What is SummaryTube?

- SummaryTube is a website that takes a YouTube video link from the user as input and outputs a brief text-based summary of the video
- The summary is generated based off of the closed-captions provided by YouTube for the video (pre-written transcripts/scripts produce best results, but auto-generated transcripts still produce consistently excellent results)
- The summary is created by GPT-3, the AI-based software from OpenAI, similar to the one behind ChatGPT
- The back-end is written in Python and the front-end is built in HTML and CSS (Flask is used to connect these programs)

# SummaryTube

<https://www.youtube.com/watch?v=FhHM9MT41IE>

Summarize

This text is about California Polytechnic State University's Poly Canyon, an architecture laboratory where senior architecture students design and build full-scale experimental final projects. The 21-22 structures still standing have been built by the students, occasionally with help from the university and companies. The structures are maintained and open to the public, though vandalism is an issue. The area is also an art gallery and the hope is that it will continue to be taken care of by the next generation of students.





<https://www.youtube.com/watch?v=RgKAFK5djSk>

Summarize

This song is about friends coming together through a shared journey, and their bond being unbreakable. It talks about the importance of family and how the love will never be lost, and how the journey will always lead home. It is a message of hope and friendship that will last forever.



# SummaryTube

<https://www.youtube.com/watch?v=rSRk4U214I0>

Summarize

This text provides a detailed overview of the 2020 U.S. presidential election, from 9 PM on election night to 1:30 AM, noting key milestones such as Joe Biden winning New Hampshire, Donald Trump winning Florida, and Texas going red. It also highlights the significance of Nebraska's one electoral college vote and the potential importance of Wisconsin and Michigan.





# Execution

- As shown in the examples, the web application works very well
- The summaries generated are accurate and concise for videos across a wide variety of genres, including informational, technical, comedic, and musical videos
- The application runs reasonably fast, producing the summary within a matter of seconds after entering the YouTube video URL



# Complexity

- Our project has many complex interlocking libraries
- The web application involves the coordination and intercommunication of multiple frameworks and languages, which is not an easy task
- Machine-learning-based text generation is a very complex exercise and has only become feasible on personal computers in recent years due to the exponential increase in execution speed



# Polish

- Other than the text size limit for inputs to the GPT-3 algorithm (4097 words) and the occasional issue with OpenAI API Keys, there are no notable issues in the application
- While we are all fairly new to front-end technologies and web-development, the UI we designed is attractive but simple
- The application even embeds the YouTube video into the page for an easier viewing experience





# Originality

- Even as ChatGPT and similar technologies have become much more prevalent, there are still relatively few easy-to-use applications that solve real-world problems using GPT-3
- These may be widespread technologies these days, but this is an exciting use case that hasn't been explored before
- As far as we know, no other major apps exist to quickly summarize the contents of YouTube videos



# Utility

- This is a very powerful tool that can be used in many situations - it can be used to verify that (almost) any video found has content relevant to your search
- As busy students in search of instructional videos, it can be frustrating to waste time watching videos with deceptive titles and thumbnails only to find out the topics covered in the video are not relevant (SummaryTube solves this problem)
- News videos can be bloated with unnecessary content when you only need to know some basic facts (SummaryTube solves this problem)