

A Fun Virtual Cam Design Project Presentation

Sreepathy Jayanand

CED17I038

A Fun Virtual Cam

- ◆ It is an application to enable a better user experience for video conferencing and video related applications.
- ◆ It changes the background of the video based on the detecting the sentiments from his / her speech.
- ◆ It can help change the monotonous nature of conventional video calls.

Working Principle

- ◆ There are mainly 2 components for this application:
- ◆ Video processing
 - ◆ Capture video
 - ◆ Get sentiments from audio processing task
 - ◆ Change the background based on the sentiments
- ◆ Audio processing
 - ◆ Obtain audio
 - ◆ Convert to text
 - ◆ Get sentiments from the text
 - ◆ Give the sentiments to the video processing task

PsuedoCode – Audio Processing Task

while True:

 audio = get_audio(index) // Get audio from mic with given index

 text = convert_audio_to_text(audio)

 sentiment = get_sentiment(text)

 if (sentiment == positive)

 flag = 1

 else

 flag = 0

PsuedoCode – Video Processing Task

cam = video_capture(index) // index – Index of the web cam to be captured

while True:

 img = cap.read()

 if (flag == 1)

 bg_image = “positive”

 else

 bg_image = “negative”

 img = change_background(img, bg_image)

 show(img)

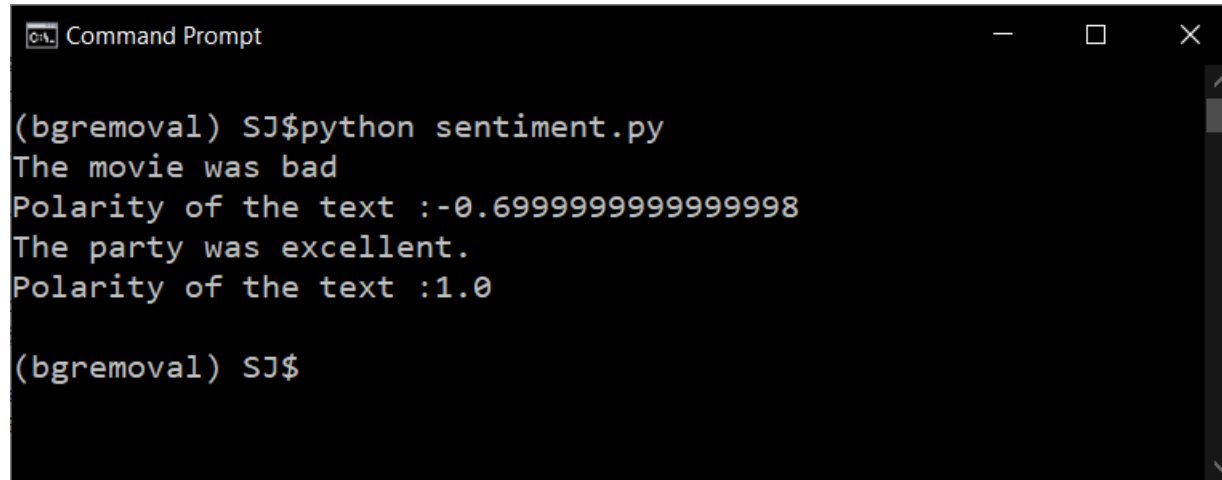
Outputs



Outputs




Outputs



```
(bgreemoval) SJ$python sentiment.py
The movie was bad
Polarity of the text :-0.6999999999999998
The party was excellent.
Polarity of the text :1.0

(bgreemoval) SJ$
```


Outputs

 You're presenting to everyone Stop presenting

Command Prompt - python final.py

```
Microsoft Windows [Version 10.0.19042.1288]
(c) Microsoft Corporation. All rights reserved.


SJ$cd Documents\CV-background

SJ$conda activate bgremoval








(bgremoval) SJ$python final.py
INFO: Created TensorFlow Lite XNNPACK delegate for CPU.
Please wait. Calibrating microphone...
Say something!
```



FPS: 38

You






1:29 AM | tvw-bdbg-por





2



THANK YOU