```
pip install fer
```

```
Looking in indexes: https://pypi.org/simple, https://us-python.pkg.dev/colab-wheels/public/simple/
Collecting fer
  Downloading fer-22.5.1-py3-none-any.whl (1.5 MB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 1.5/1.5 MB 19.2 MB/s eta 0:00:00
Requirement already satisfied: matplotlib in /usr/local/lib/python3.10/dist-packages (from fer) (3.7.1)
Requirement already satisfied: opencv-contrib-python in /usr/local/lib/python3.10/dist-packages (from fer) (4.7.0.72)
Requirement already satisfied: keras>=2.0.0 in /usr/local/lib/python3.10/dist-packages (from fer) (2.12.0)
Requirement already satisfied: pandas in /usr/local/lib/python3.10/dist-packages (from fer) (1.5.3)
Requirement already satisfied: requests in /usr/local/lib/python3.10/dist-packages (from fer) (2.27.1)
Collecting facenet-pytorch (from fer)
  Downloading facenet_pytorch-2.5.3-py3-none-any.whl (1.9 MB)
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Requirement already satisfied: tqdm>=4.62.1 in /usr/local/lib/python3.10/dist-packages (from fer) (4.65.0)
Requirement already satisfied: moviepy in /usr/local/lib/python3.10/dist-packages (from fer) (1.0.3)
Collecting ffmpeg==1.4 (from fer)
  Downloading ffmpeg-1.4.tar.gz (5.1 kB)
  Preparing metadata (setup.py) ... done
Requirement already satisfied: Pillow in /usr/local/lib/python3.10/dist-packages (from fer) (8.4.0)
Requirement already satisfied: numpy in /usr/local/lib/python3.10/dist-packages (from facenet-pytorch->fer) (1.22.4)
Requirement already satisfied: torchvision in /usr/local/lib/python3.10/dist-packages (from facenet-pytorch->fer) (0.15.2+cu118)
Requirement already satisfied: contourpy>=1.0.1 in /usr/local/lib/python3.10/dist-packages (from matplotlib->fer) (1.0.7)
Requirement already satisfied: cycler>=0.10 in /usr/local/lib/python3.10/dist-packages (from matplotlib->fer) (0.11.0)
Requirement already satisfied: fonttools>=4.22.0 in /usr/local/lib/python3.10/dist-packages (from matplotlib->fer) (4.39.3)
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Requirement already satisfied: pyparsing>=2.3.1 in /usr/local/lib/python3.10/dist-packages (from matplotlib->fer) (3.0.9)
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Requirement already satisfied: decorator<5.0,>=4.0.2 in /usr/local/lib/python3.10/dist-packages (from moviepy->fer) (4.4.2)
Requirement already satisfied: proglog<=1.0.0 in /usr/local/lib/python3.10/dist-packages (from moviepy->fer) (0.1.10)
Requirement already satisfied: imageio<3.0,>=2.5 in /usr/local/lib/python3.10/dist-packages (from moviepy->fer) (2.25.1)
Requirement already satisfied: imageio-ffmpeg>=0.2.0 in /usr/local/lib/python3.10/dist-packages (from moviepy->fer) (0.4.8)
Requirement already satisfied: urllib3<1.27,>=1.21.1 in /usr/local/lib/python3.10/dist-packages (from requests->fer) (1.26.15)
Requirement already satisfied: certifi>=2017.4.17 in /usr/local/lib/python3.10/dist-packages (from requests->fer) (2022.12.7)
Requirement already satisfied: charset-normalizer~=2.0.0 in /usr/local/lib/python3.10/dist-packages (from requests->fer) (2.0.12)
Requirement already satisfied: idna<4,>=2.5 in /usr/local/lib/python3.10/dist-packages (from requests->fer) (3.4)
Requirement already satisfied: pytz>=2020.1 in /usr/local/lib/python3.10/dist-packages (from pandas->fer) (2022.7.1)
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Requirement already satisfied: MarkupSafe>=2.0 in /usr/local/lib/python3.10/dist-packages (from jinja2->torch==2.0.1->torchvision->facer
Requirement already satisfied: mpmath>=0.19 in /usr/local/lib/python3.10/dist-packages (from sympy->torch==2.0.1->torchvision->facenet-p
Building wheels for collected packages: ffmpeg
  Building wheel for ffmpeg (setup.py) ... done
  Created wheel for ffmpeg: filename=ffmpeg-1.4-py3-none-any.whl size=6083 sha256=c39f83dffa2ccaca9dda801c204b53c5d8ca921073b3deaf7036c7
  Stored in directory: /root/.cache/pip/wheels/8e/7a/69/cd6aeb83b126a7f04cbe7c9d929028dc52a6e7d525ff56003a
Successfully built ffmpeg
Installing collected packages: ffmpeg, facenet-pytorch, fer
Successfully installed facenet-pytorch-2.5.3 fer-22.5.1 ffmpeg-1.4
```
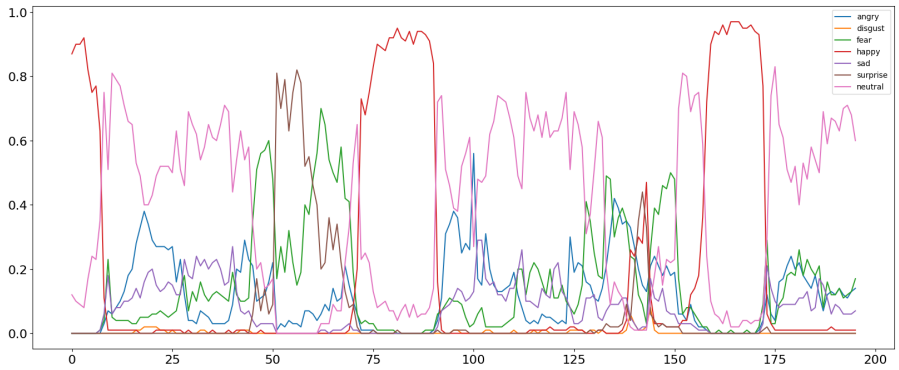

```
from fer import Video
from fer import FER
import os
import sys
import pandas as pd


video_file="WIN_20230623_13_19_09_Pro.mp4"


# Build the Face detection detector
face_detector = FER(mtcnn=True)
# Input the video for processing
input_video = Video(video_file)
```

```
# The Analyze() function will run analysis on every frame of the input video.
# It will create a rectangular box around every image and show the emotion values next to that.
# Finally, the method will publish a new video that will have a box around the face of the human with live emotion values.
processing_data = input_video.analyze(face_detector, display=False)
```

```
INFO:fer:15.02 fps, 207 frames, 13.78 seconds
INFO:fer:Making directories at output
100%|██████████| 207/207 [01:43<00:00,  2.00frames/s]
INFO:fer:Completed analysis: saved to output/WIN_20230623_13_19_09_Pro_output.mp4
INFO:fer:Starting to Zip
INFO:fer:Compressing: 24%
INFO:fer:Compressing: 48%
INFO:fer:Compressing: 72%
INFO:fer:Compressing: 96%
INFO:fer:Zip has finished
```

```
# We will now convert the analysed information into a dataframe.
# This will help us import the data as a .CSV file to perform analysis over it later
vid_df = input_video.to_pandas(processing_data)
vid_df = input_video.get_first_face(vid_df)
vid_df = input_video.get_emotions(vid_df)
```

```
# Plotting the emotions against time in the video
pltfig = vid_df.plot(figsize=(20, 8), fontsize=16).get_figure()
```




```
# We will now work on the dataframe to extract which emotion was prominent in the video
angry = sum(vid_df.angry)
disgust = sum(vid_df.disgust)
fear = sum(vid_df.fear)
happy = sum(vid_df.happy)
sad = sum(vid_df.sad)
surprise = sum(vid_df.surprise)
neutral = sum(vid_df.neutral)
```

```
emotions = ['Angry', 'Disgust', 'Fear', 'Happy', 'Sad', 'Surprise', 'Neutral']
emotions_values = [angry, disgust, fear, happy, sad, surprise, neutral]
```

```
score_comparisons = pd.DataFrame(emotions, columns = ['Human Emotions'])
score_comparisons['Emotion Value from the Video'] = emotions_values
score_comparisons
```

	Human Emotions	Emotion Value from the Video
0	Angry	23.27
1	Disgust	0.56
2	Fear	29.51
3	Happy	41.09
4	Sad	14.89
5	Surprise	11.64
6	Neutral	74.61

```
df=pd.read_csv("/content/data.csv")
df
```

	angry0	angry1	box0	box1	disgust0	disgust1	fear0	fear1	happy0	happy1	neutra
0	0.00	NaN	[482, 95, 249, 303]	NaN	0.0	NaN	0.00	NaN	0.87	NaN	0
1	0.00	NaN	[484, 97, 247, 301]	NaN	0.0	NaN	0.00	NaN	0.90	NaN	0
2	0.00	NaN	[484, 97, 247, 301]	NaN	0.0	NaN	0.00	NaN	0.90	NaN	0
3	0.00	NaN	[475, 78, 259, 318]	NaN	0.0	NaN	0.00	NaN	0.92	NaN	0
			[481,								