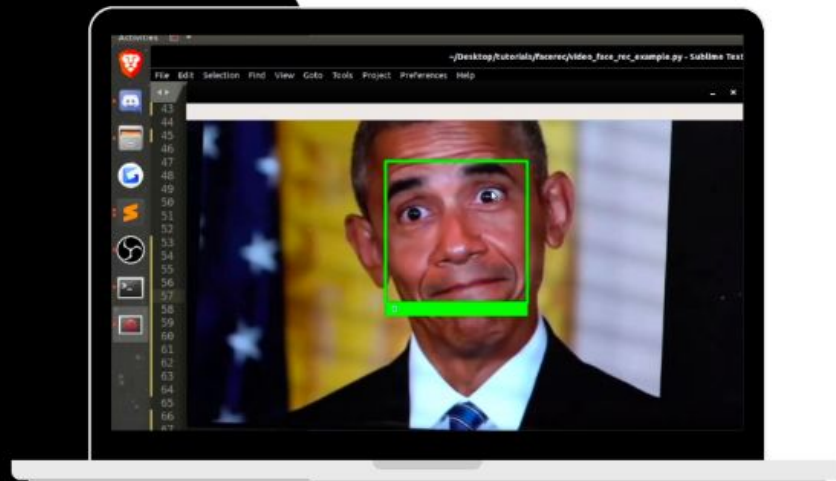
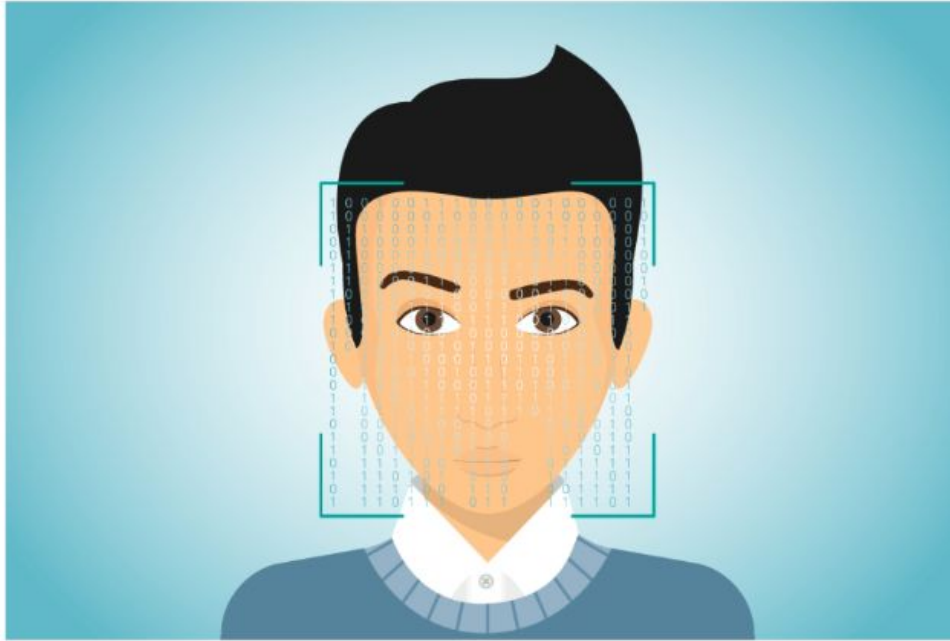


ATTENDANCE TRACKER SYSTEM USING FACE RECOGNITION





INTRODUCTION

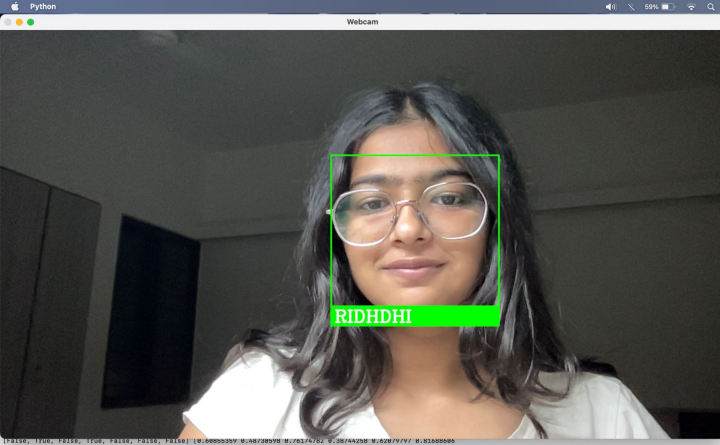
- Dlib / OpenCV
- Face - Recogniton
- Encodings / Face Locations
- Pandas - Attendance.xlsx
- Mail - SMTP

FEATURES

- FACE ENCODINGS / FACE LOCATION/ RGB VALUES
- VIDEO CAPTURE
- WAIT KEY - Q
- READ EXCEL / TO EXCEL
- APP PASSWORD
- SERVER LOGIN / SEND MESSAGE
- REGISTERING NEW STUDENT - VIDEO CAPTURE
- WAIT KEY - C

MINUTIAE

- Python uses image data in the form of a array, i.e., [Height, Width, Channel] format.
- Detect faces
- Compute 128-d face embeddings to quantify a face
- Train a Support Vector Machine (SVM) on top of the embeddings
- Recognize faces in images and video streams



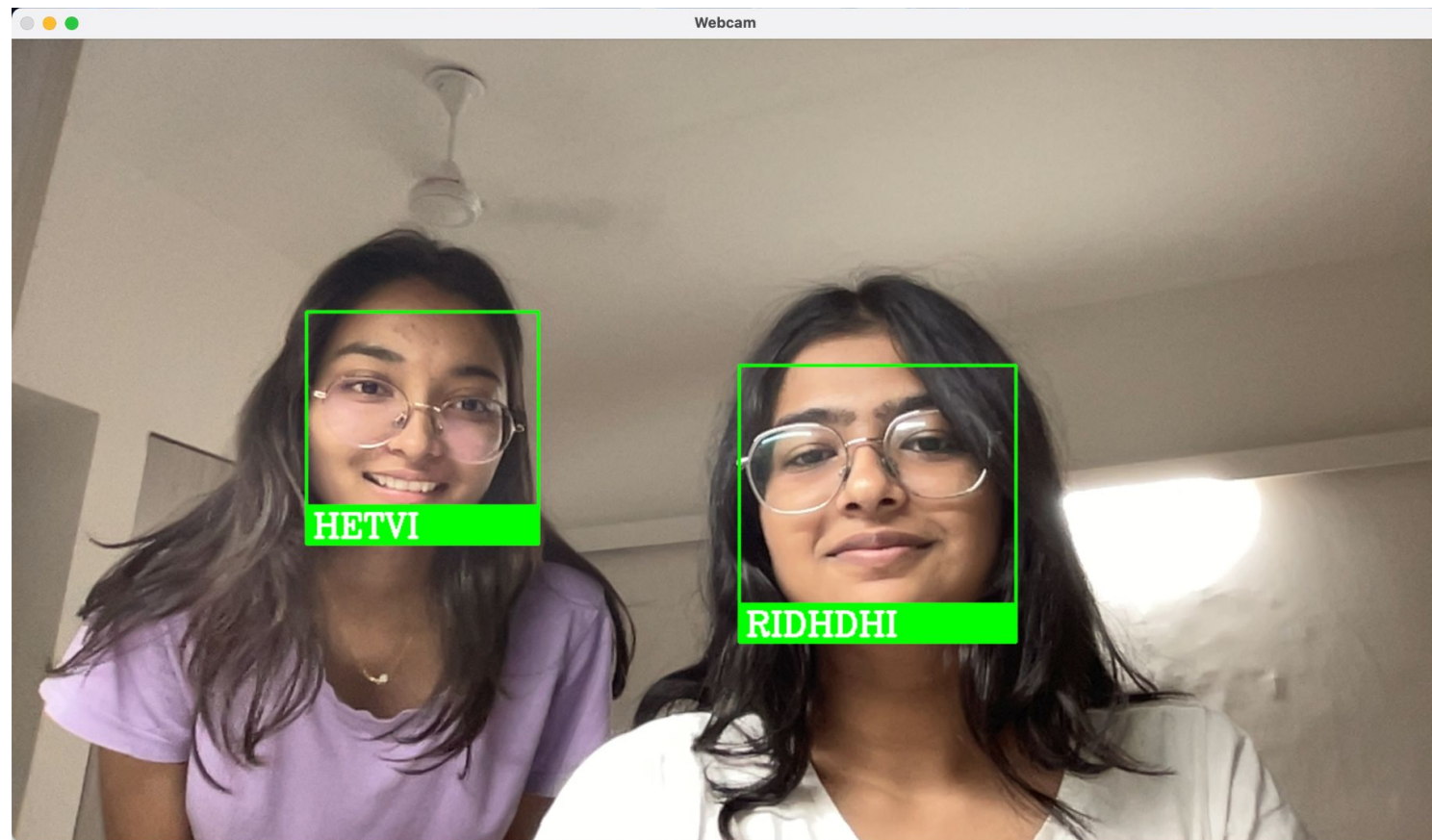
HOW FACE RECOGNITION ACTUALLY WORKS

- Using face_distance, we can identify nearest matches with the face appearing on webcam.
- For example, here the matches are displayed with boolean value true.

```
(base) Ridhdhis-MacBook-Pro:Downloads ridhdhi$ python3 img-recognitio.py
['AASHNA.jpg', 'HETVI.jpg', 'MALARAMSIR.jpg', 'RIDHDHI.jpg', 'NIR.jpg', 'HARSH.jpg', 'HETUL.jpg']
['AASHNA', 'HETVI', 'MALARAMSIR', 'RIDHDHI', 'NIR', 'HARSH', 'HETUL']
Encoding Complete
1.Take Attendance
2.Send mail
3.Add student
1
[False, True, False, True, False, False, False] [0.62025401 0.53090641 0.77273265 0.43492192 0.63510387 0.81459906
0.74942833]
[True, True, False, True, False, False, False] [0.5932665 0.51892549 0.76481003 0.39746776 0.61048962 0.77178119
0.6971146 ]
[True, True, False, True, False, False, False] [0.58956457 0.51109097 0.76126244 0.37690341 0.60883596 0.78409042
0.72335856]
[True, True, False, True, False, False, False] [0.59224347 0.52331048 0.76611944 0.39043241 0.60680986 0.77872169
0.69944205]
[True, True, False, True, False, False, False] [0.58949382 0.51726813 0.7671743 0.39805698 0.61941847 0.79053271
0.71745839]
[True, True, False, True, False, False, False] [0.59393525 0.52376214 0.7710156 0.40516226 0.61505906 0.79118559
0.71872388]
[True, True, False, True, False, False, False] [0.59593739 0.52793198 0.76050977 0.40879273 0.61003001 0.78054601
0.70918411]
[True, True, False, True, False, False, False] [0.58816376 0.51046545 0.75914031 0.39543506 0.62145405 0.78169467
0.73555943]
```

Out of all the matched faces, best match is picked by identifying the one with minimum face distance


```
(base) Ridhdhis-MacBook-Pro:Downloads ridhddhi$ python3 img-recognition.py  
['AASHNA.jpg', 'HETVI.jpg', 'MALARAMSIR.jpg', 'RIDHDDHI.jpg', 'HARSH.jpg', 'HETUL.jpg']  
['AASHNA', 'HETVI', 'MALARAMSIR', 'RIDHDDHI', 'HARSH', 'HETUL']  
Encoding Complete  
1.Take Attendance  
2.Send mail  
3.Add student  
1█
```





	Name	Email	20/04.2023	21/04/2023	22/04/2023	23/04/2023
0	HETUL	21bce087@	P	P	P	P
1	RIDHDHI	ridhdhi03@	A	P	P	P
2	HETVI	ridhdhi03@	A	A	A	P

```

1.Take Attendance
2.Send mail
3.Add student
3
Enter name
RIDHDHI
Name already present
Enter name
NIR
Enter email
21bce272@nirmauni.ac.in
{'Name': 'NIR', 'Email': '21bce272@nirmauni.ac.in', '20/04.2023': 'A', '21/04/2023': 'A', '22/04/2023': 'A', '23/04/2023': 'A', '24/04/2023': 'A', '25/04/2023': 'A', '30/04/2023': 'A', '03/05/2023': 'A'}
['NIR', '21bce272@nirmauni.ac.in', 'A', 'A', 'A', 'A', 'A', 'A', 'A', 'A']


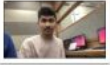

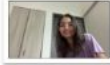

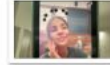

```

	Name	Email	20/04.2023	21/04/2023	22/04/2023	23/04/2023	24/04/2023	25/04/2023	30/04/2023	03/05/2023
0	HETUL	21bce087@nirmauni.ac.in	P	P	P	P	A	A	A	A
1	RIDHDHI	ridhdhi03@gmail.com	A	P	P	P	P	P	P	P
2	HETVI	ridhdhi03@gmail.com	A	A	A	P	P	A	A	P
3	MALARAMSIR	malaram.kumhar@nirmauni.ac.in	A	A	A	A	P	A	A	A
4	AASHNA	21bce267@nirmauni.ac.in	A	A	A	A	P	A	A	A
5	HARSH	21bce251@nirmauni.ac.in	A	A	A	A	A	P	A	A
6	NIR	21bce272@nirmauni.ac.in	A	A	A	A	A	A	A	A

ENTERING A NEW STUDENT IN EXCEL FILE

DOES NOT PERMIT ENTRY OF NAME ALREADY USED BEFORE

<
>
People

People	Applications					
						
AASHNA.jpg	HARSH.jpg	HETUL.jpg	HETVI.jpg	MALARAMSIR.jpg	NIR.jpg	RIDHDHI.jpg

**WEBCAME
CAPTURES NIR'S
IMAGE(ON KEY
PRESS C) AND
NIR'S IMAGE
AUTOMATICALLY
ADDED TO
PEOPLE FOLDER**



	Name	Email	20/04/2023	21/04/2023	22/04/2023	23/04/2023	24/04/2023	25/04/2023	30/04/2023	03/05/2023
0	HETUL	21bce087@P		P	P	P	A	A	A	A
1	RIDHDHI	ridhdhi03@A		P	P	P	P	P	P	P
2	HETVI	ridhdhi03@A		A	A	P	P	A	A	P
3	MALARAM	malaram.ku.A		A	A	A	P	A	A	A
4	AASHNA	21bce267@A		A	A	A	P	A	A	A
5	HARSH	21bce251@A		A	A	A	A	P	A	A
6	NIR	21bce272@A		A	A	A	A	A	A	A

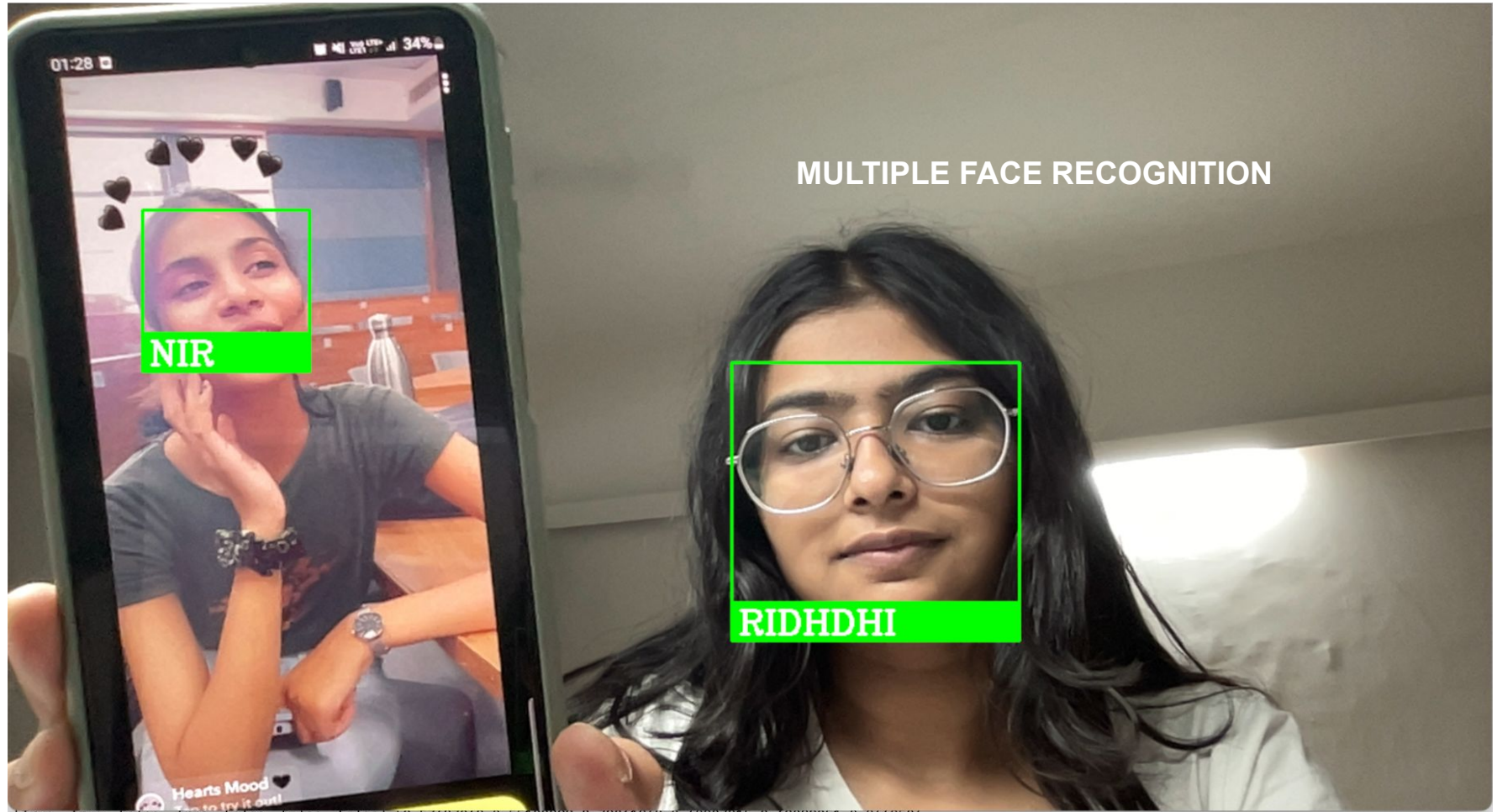
**NIR MARKED
ABSENT BEFORE
TAKING
ATTENDANCE**



	Name	Email	20/04/2023	21/04/2023	22/04/2023	23/04/2023	24/04/2023	25/04/2023	30/04/2023	03/05/2023
0	HETUL	21bce087@P		P	P	P	A	A	A	P
1	RIDHDHI	ridhdhi03@A		P	P	P	P	P	P	P
2	HETVI	ridhdhi03@A		A	A	P	P	A	A	P
3	MALARAM	malaram.ku.A		A	A	A	P	A	A	A
4	AASHNA	21bce267@A		A	A	A	P	A	A	A
5	HARSH	21bce251@A		A	A	A	A	P	A	A
6	NIR	21bce272@A		A	A	A	A	A	A	P

**NIR MARKED
PRESENT AFTER
TAKING
ATTENDANCE**

TAKING ATTENDANCE



MULTIPLE FACE RECOGNITION

CAN SPONTANEOUSLY SEND EMAIL TO ALL STUDENTS WITH THEIR ATTENDANCE PERCENTAGE READ FROM EXCEL FILE

The screenshot displays a Gmail interface with a list of emails in the 'Sent' folder. The emails are titled 'Your Attendance Report' and contain attendance percentages for various students. The interface includes a sidebar with navigation options, a search bar, and a list of emails with details like 'To: ridhdi03 6', 'Your Attendance Report - Your attendance is 87.5percent', and the time '8:08 PM'. The selected email shows a detailed attendance percentage: '66.66666666666666percent'.

To:	Subject	Time
ridhdi03 6	Your Attendance Report - Your attendance is 87.5percent	8:08 PM
21bce087 7	Your Attendance Report - Your attendance is 100.0percent	8:08 PM
21bce250	Your Attendance Report - Your attendance is 87.5percent	10:24 AM
21bce287	Your Attendance Report - Your attendance is 100.0percent	10:24 AM
21bce257	Your Attendance Report - Your attendance is 100.0percent	10:24 AM
21bce250	Your Attendance Report - Your attendance is 62.5percent	Apr 20
21bce087	Your Attendance Report - Your attendance is 66.66666666666666percent	Apr 20
21bce287	Your Attendance Report - Your attendance is 75.0percent	Apr 20
21bce257	Your Attendance Report - Your attendance is 100.0percent	Apr 20
21bce087 2	Your Attendance Report - Your attendance is 33.33333333333333percent	Apr 19
21bce287 2	Your Attendance Report - Your attendance is 50.0percent	Apr 19
21bce257 2	Your Attendance Report - Your attendance is 100.0percent	Apr 19
21bce272	Your Attendance Report - Your attendance is 58.33333333333333percent	Apr 19
21bce096	Your Attendance Report - Your attendance is 60.0percent	Apr 19
21bce267	Your Attendance Report - Your attendance is 62.5percent	Apr 19