



Welcome!

# IMAGE DETECTION And INVISIBLE CLOAK– using opencv

Under the Guidance of  
**Mr.Nimesh Dagur**  
(Project guide)



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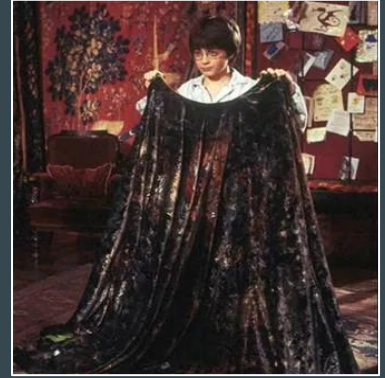
The concept of an invisibility cloak is a mixture of science, fantasy, and the collective imagination.

Do you want to wear that cloak?

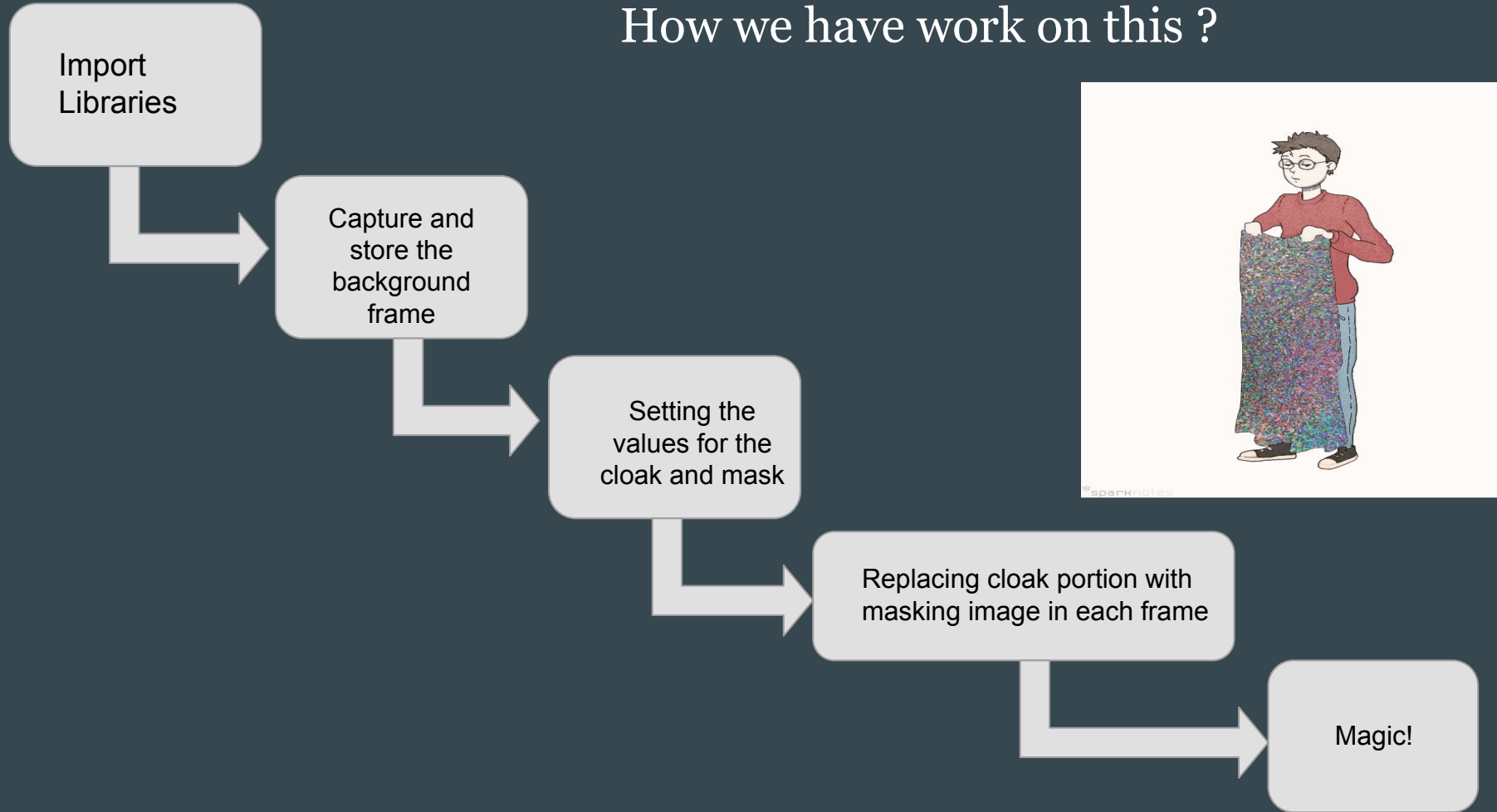
If Yes!! then in this python project, we will develop invisible cloak using OpenCV using which you will become invisible.

Let's create our own invisible cloak.

Obviously, It will not be the real cloak but some graphical tricks with OpenCV and Python to make things invisible in front of the camera based on colour detection and colour segmentation techniques. The same has been done for an android camera using OpenCV and Python.



# How we have work on this ?



# Project Prerequisites:

- Python – Version 3.x or above (we use here version 3.10)
- Numpy -1.19.2
- OpenCV -4.5
- Selection of IDE for project as per your choice (we are using **Pycharm** and it also works on **VS Code**)
- For deployment of project we used here **github**.

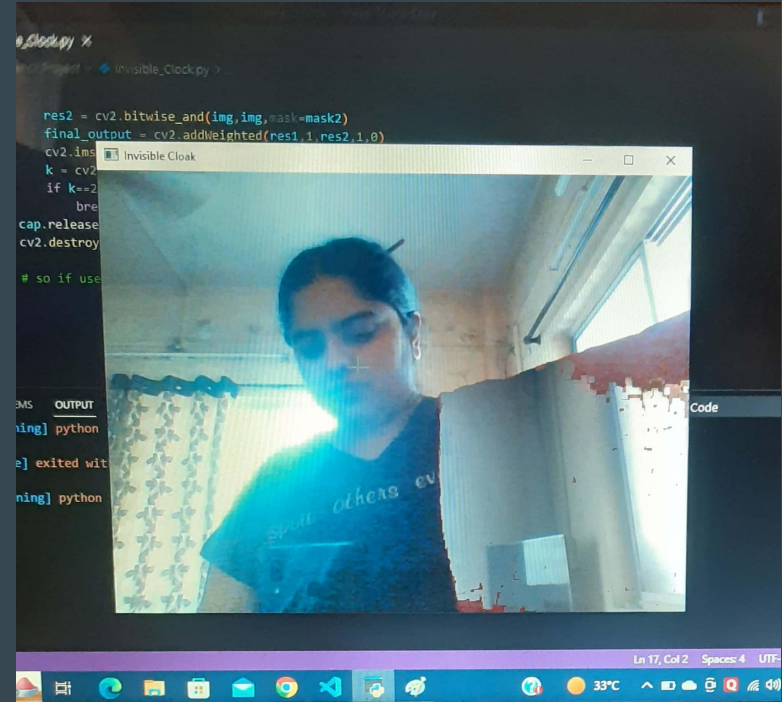
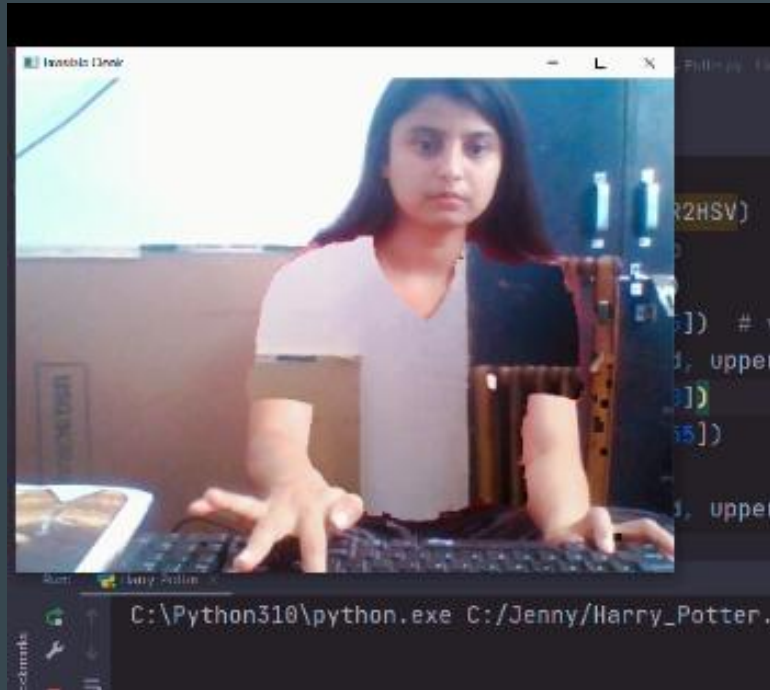
# IMPLEMENTATION

```
invisible_Clock.py 2 X Release Notes: 1.76.0
> Opeancv Project > invisible_Clock.py > ...
1 # Import Libraries
2 import numpy as np
3 import cv2
4 import time
5
6 cap = cv2.VideoCapture(0)
7 time.sleep(2)
8 background = 0
9
10 for i in range(50):
11     ret, background = cap.read()
12
13 while(cap.isOpened()):
14     ret, img = cap.read()
15     if not ret:
16         break
17     hsv=cv2.cvtColor(img,cv2.COLOR_BGR2HSV)
18
```

```
invisible_Clock.py 2 X Release Notes: 1.76.0
Dr. > Opeancv Project > invisible_Clock.py > ...
20 #all this Comes in the while loop
21 lower_red = np.array([0,120,70])
22 upper_red = np.array([10,255,255]) # values is for red colour Cloth
23 mask1 = cv2.inRange(hsv, lower_red,upper_red)
24 lower_red = np.array([170,120,70])
25 upper_red = np.array([180,255,255])
26
27 mask2 = cv2.inRange(hsv,lower_red,upper_red)
28 #Combining the masks so that It can be viewd as in one frame
29 mask1 = mask1 +mask2
30 mask1 = cv2.morphologyEx(mask1,cv2.MORPH_OPEN,np.ones((3,3),np.uint8), iterations = 2)
31 mask1 = cv2.morphologyEx(mask1, cv2.MORPH_DILATE,np.ones((3,3),np.uint8), iterations = 1)
32
33 mask2 =cv2.bitwise_not(mask1)
34
35 res1 = cv2.bitwise_and(background,background,mask=mask1)
36
37
38 res2 = cv2.bitwise_and(img,img,mask=mask2)
39 final_output = cv2.addWeighted(res1,1,res2,1,0)
40 cv2.imshow('Invisible Cloak',final_output)
41 k = cv2.waitKey(10)
42 if k==27:
43     break
44 cap.release()
45 cv2.destroyAllWindows()
46
47 # so if user want to quit the program they can press Escape key the 27 is the code for e
48
```



# RESULT



Let take live experience...



# APPLICATIONS

Medical



Automotive



Gaming applications



# CONCLUSION

In this Machine learning project, we have created an invisible cloak using Opencv. We implemented the color detection and segmentation technique here. Using this project we can do masking and other image processing which will be useful for the business purposes.

OpenCV is a vast field and has many practical applications available in the industry like object detection, motion detection, facial recognition, and nowadays many organizations are using the same in the name of AI and Computer Vision for developing surveillance systems to keep track of criminal activities.

## FUTURE SCOPE

Computer vision has still not achieved a level wherein it can be directly put into use to solve life problems, as it is still in its developmental phase. Also, it can be widely used in the applications of Augmented Reality.

