Green Field Detection Using Python OpenCV

Technologies must know:

1) Python Programming
2) OpenCV Image/Video Processing
3) Drone Technology

Process:

1) You have to process video such that it will detect frames containing green colour
2) Then you have to segment the video such that it will extract frames containing green colour and then you must do image stitching (make one panoramic image of all the images)
3) The image that is made through this procedure is the one who contains the green colour
4) The main part is the deployment of the program on the raspberry pi
5) Raspberry pi has its unique camera which is useful for this project.

Taken help through:

1) Phade mam
2) Attarde sir
3) Dhulekar sir

Video Processing Program:

1) We cannot detect particular colour from BGR Frame
2) For detection of a colour, we have to convert it into **HSV format**
3) Then you have to find the **mask** for the particular colour and then you need to perform **bitwise Anding** with each pixel then you can get the object of the frame having that particular pixel
4) For finding the mask you have to find out the exact value of **hue**, **saturation** and **brightness**
5) After finding that value you need to change the HSV values by the values you get before then you will get the particular frame.

My Work:

I have started learning python since 10th November then I have learned OpenCV which is the main tool we are using.

I have successfully coded the program of green colour detection in two ways. Now we just need to deploy it in raspberry pi and move forward.

Click here to see the program (**GreenFieldDetection.py**)