

Magic Cloak

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Objective

Methodology

Advantages

We will doing this using various image processing technique like **colour detection** and **segmentation**.

**OpenCV** was built to provide a common infrastructure for computer vision applications and to accelerate the **use** of machine perception in the commercial products. Being a BSD-licensed product, **OpenCV** makes it easy for businesses to utilize and modify the code.

**Image processing**:-It is a method to perform some operations on an image, in order to get an enhanced image or to extract some useful information from it. It is a type of signal processing in which input is an image and output may be image or characteristics/features associated with that image.

Image processing basically includes the following three steps:

* Importing the image via image acquisition tools;
* Analysing and manipulating the image;
* Output in which result can be altered image or report that is based on image analysis.

We are making a Human being transparent in front of a video camera using image processing techniques. Actully a object exist in real world but in virtuality of our camara we make it invisible.

A **colour detection** algorithm identifies pixels in an image that match a specified colour or colour range. The colour of detected pixels can then be changed to distinguish them from the rest of the image. Deploy the colour detection model and use the Video Display block to show simulated data on the Android device.

In computer vision the term “image segmentation” or simply “segmentation” refers to dividing the image into groups of pixels based on some criteria. A segmentation algorithm takes an image as input and outputs a collection of regions (or segments) which can be represented as

* A collection of contours
* A mask (either grayscale or colour ) where each segment is assigned a unique grayscale value or colour to identify it.
* This will even help in editing of images and videos.
* It will give us a deep knowledge about the computer vision.

Introduction

Conclusion

You have seen a few of the features of a good introductory image processing program. There are many more complex modifications you can make to the images. For example, you can apply a variety of filters to the image. The filters use mathematical algorithms to modify the image. Some filters are easy to use, while others require a great deal of technical knowledge by seeing our project we can see that our image processing works properly and we can see cube is completely transparent.

This uses the openCV module for masking. Here we make white colour transparent. This is done by superimposing the background on the cube.

Here we replace the white pixels ( or undesired area ) with background pixels to generate the invisibility feature.

  1.Hue: This channel encodes colour information. Hue can be thought of an angle where 0 degree corresponds to the red colour, 120 degrees corresponds to the green colour, and 240 degrees corresponds to the blue colour.

   2. Saturation: This channel encodes the intensity/purity of colour.

For example, pink is less saturated than red.

3. Value: This channel encodes the brightness of colour. Shading and gloss components of an image appear in this channel reading the video capture video,.

Hardware and Software Used

* OpenCV module for image processing and numpy, time, argparse libraries.
* Python as our programming language.
* The whole application will be built on windows10 OS (64-bit machine).

