# Project 3: Selective Coloring Effect

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Introduction

The aim of this project was to implement selective coloring. That is, highlighting specific range of colors while keeping the background in grayscale model. OpenCV, which is open source library for image processing, was used to implement all tasks. First, there is an implementation of selective coloring for single image. Then, the same task was implemented using real time video streaming. Additionally, there is a surprise part to show some interesting stuff.

Image Effect

We have a colored image in RGB model. By choosing specific pixel from an image we need to obtain a new image where only specific color remains and other parts become grayscale. To do this, we can simply go through all pixels and compare them with our specific chosen color. I used to compare with Euclidean distance between pixel values and then one threshold differentiates the image. Here is an example from my implementation.



Video Effect

In order to implement the same task in real time video streaming we can see that video is a simple an ordered set of images or frames. Therefore, by obtaining each frame and doing the same effect as a previous work we can accomplish this task.