Selective coloring effect

Image Processing. Project 4.

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| Original frame | Selective color effect, with blue color selected | Magic Button |

## Objectives

* Implement selective coloring effect using OpenCV framework
* Make some creative, magic button
* Do it better than others

## Process

For the first part of this project, I’ve tried to use numpy’s and OpenCV’s built-in functions, as they are as optimal as possible. The main problem with computations was related due to trackbar, to be more precise, it was related to the way trackbar is implemented in OpenCV in OS X operating system. But separating video frame to dedicated window and decreasing resolution of the video to 480p solved this problem.

For the magic button part, I’ve implemented some “glitch” like filter. I apply special filter to each channel of the RGB scheme separately, and then by the end, I combine them back. Each channel now has grayscale image. I just stacked up frame with himself but shifted in Ox direction and with decreased intensity level and repeated this step 10 times. It worth to mention that intensity level decreases exponentially, so image is more smooth

## Usage

Script requires Python3, OpenCV, NumPy and web camera attached to the computer.

When script is executed, two windows appear: “Config” and “Frame”. “Config” window contains 4 trackbars for the manual adjustment of the selected color and sensitivity of the filter. You also can click at some point the video window in order to directly choose preferred color. In order to use magic part, switch Magic trackbar to the right and watch what happens ☺