

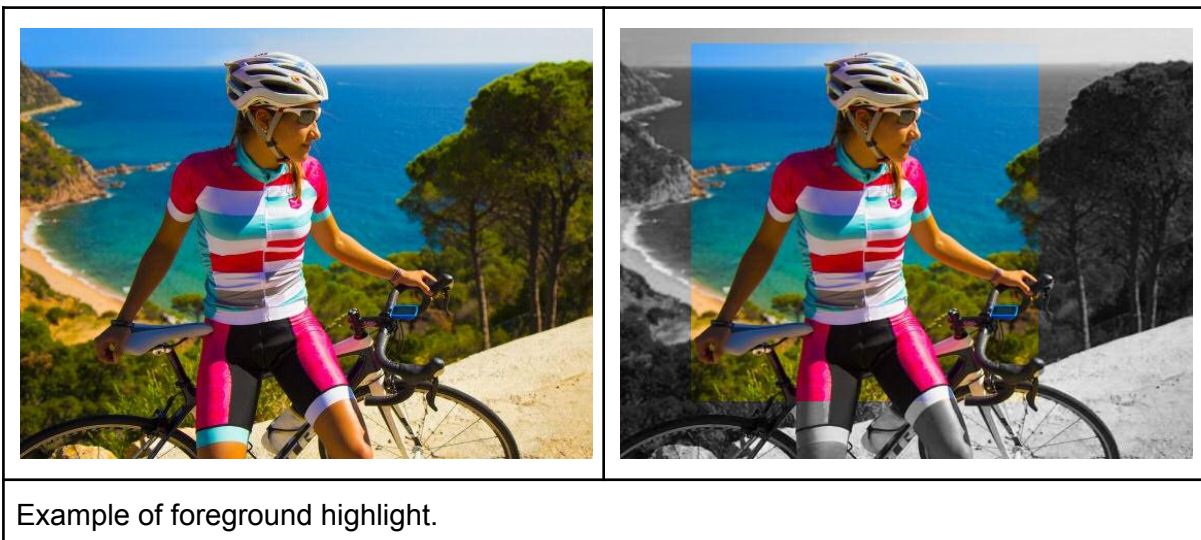
# Foreground highlight

## Goals:

- Learning how to manipulate an image.
- Learning how to use OpenCV's GUI (Graphical User Interface).
- Learning to convert color spaces.

## Minimum requirements (up to 6 points):

Create a program that loads an RGB image and shows a basic GUI to select an image region (a rectangle) with the mouse. When two points in the image are selected, the program will show another window where the inner rectangle region is in color, while the rest is in greyscale (see Figure below). The user should be able to repeat the operation as many times as desired without restarting the application.



## Optional (up to 4 points):

- The program will draw interactively the rectangle while the user moves the mouse over the window. (2 points)
- Allow selecting a complex region such as a polygon(2 points).

## OpenCV resources:

- GUI functions: [https://docs.opencv.org/3.4.7/d7/dfc/group\\_highgui.html](https://docs.opencv.org/3.4.7/d7/dfc/group_highgui.html)
- Draw a rectangle [https://docs.opencv.org/3.4.7/d6/d6e/group\\_imgproc\\_draw.html](https://docs.opencv.org/3.4.7/d6/d6e/group_imgproc_draw.html)

- Draw polygon:  
[https://docs.opencv.org/3.4.7/d6/d6e/group\\_imgproc\\_\\_draw.html#gaf30888828337aa4c6b56782b5dfbd4b7](https://docs.opencv.org/3.4.7/d6/d6e/group_imgproc__draw.html#gaf30888828337aa4c6b56782b5dfbd4b7)