

Image Analysis and Processing

First set of Exercises

22/04/2021

It is critical to explain your choices and provide comments for the outputs (intermediate and final).

Exercise 1

- i) Find the main edges of image11.jpg.
- ii) Estimate the angle (with respect to the horizontal axis) of the diagonal edges of the roof.
- iii) Find the corners of the image11.jpg.
- iv) Based on the detected corners, locate the windows.

Exercise 2

- i) Estimate the angle with respect to the horizontal axis of the billiard cue in image31.jpg. To verify your answer, rotate the input image accordingly. The result should be similar to image32.jpg.

Hint: Note that the billiard cue is the only object with straight edges.

- ii) Combine image31.jpg and image32.jpg to generate an image similar to image33.jpg.

Hints:

- the billiard cue is the only object that matches to the pattern of a very long horizontal line.
- it is very likely that the billiard cue is connected to a ball in a binary representation of the image (and it would be useful to separate these objects)