Videoverarbeitung – Übung 1

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Theoretical Questions

Why would another object with the same color not bepart of the foreground? And what would happen if this other object would be very close to the foreground we are looking for?

> In Task f we remove all the regions that are not connected to the scribbles. The function „keepConnected" does that by labeling connected components and removing those which are not connected to the scribbles of the reference frame.

> If the other object is very close it could happen that some of the color-values influence the transition between foregound and background when the guided fearhering of task g is applied.

Why is it important to take a "good" reference frame for the scribbles, which contains as many different colors of the foreground object as possible?

> The reference frame and the scribbles on it determine the color values that are later put into the color histogram. If only a small population of all possible color values is found in the reference frame, the Cost-Volume Matrix will be inconclusive. In that case color values that do not have a definition could be detected falsely as part of the background.

What are meaningful parameters for the function "guidedfilter_vid_color"and what are they standing for?

- I_vid = The RGB Video in which the foreground object should be detected
- p_vid = The grayscale video that will be used as „mask" for the RGB video
- r = Kernel Radius – Radius of the 2D Filter Kernel → 2 renders good results, very high values (e.g. 8) lead to heavy blurring
- rt = Time Factor – Adds a 3rd Dimension to the Filter → 1
- eps = Epsilon – regularization parameter – Higher value leads to high degree of smoothing → 0.1^2