ROVI: Exercise 4 - Homography Transform

Frederik Hagelskjær (frhag@mmmi.sdu.dk)

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In this exercise your task is to determine the size (width, height) of the PCB (green square object) in the attached image. You know that the piece of paper lying on the table is A4 (210x297 mm).

The steps leading you to the solution could be:

- Find the corners of the piece of paper in the image.

- Define a coordinate system for the planar A4 piece of paper.

- Estimate a homography that maps between the two coordinate systems (use the findHomography function).

- Check if your homography is correct by warping the perspective (use the warpPerspective function). The result should be an image that looks like you are looking at the piece of paper from the top.

- Find the corner point of the PCB in the image.

- Use the homography to transfer the PCB corner points from the image to the planar A4 piece reference system (alternatively: find the corners in the warped image).

- Compute the distances in that system.

Can you also determine the height of the capacitor (blue cylinder) this way?