



UNIVERSITY OF AMSTERDAM

BEELDVERWERKEN WEEK 5

BV4

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2

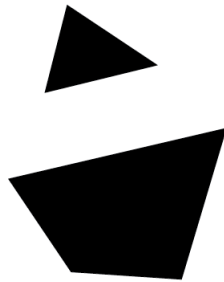
2.1

In the assignment the theta is the angle of the line itself, while in the lecture notes the theta is the angle of the normal vector of the line. This causes the formula to change by swapping the cosine and sine and turning one into a negative.

2.2

There are combinations where theta, x, and y that cause rho to be negative, for example when x is positive, $\sin(\theta)$ is negative, and y and $\cos(\theta)$ are positive.

2.3



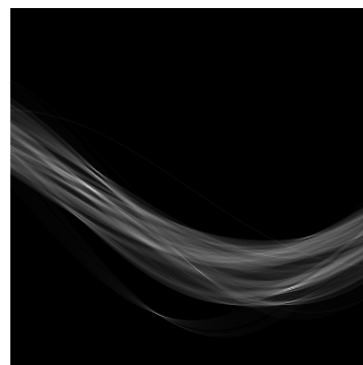
(a) Shapes



(b) Hough transform of picture with edge threshold of 0.9



(a) Box



(b) Hough transform of picture with edge threshold of 0.2

3

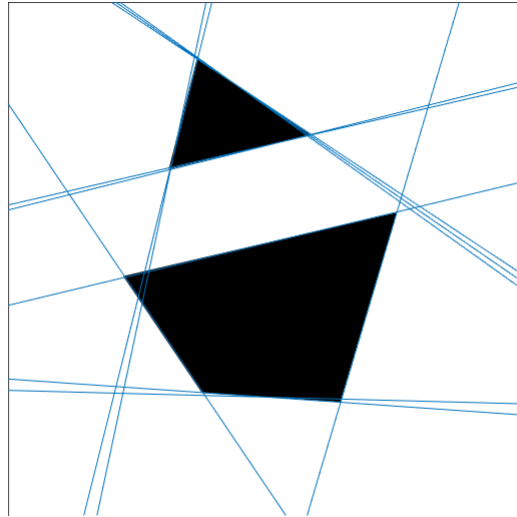


Figure 3: Lines created by houghlines function

5



(a) Lines found with houghlines



(b) Lines from houghlines improved with total LSQ

Figure 4: Line optimization

6

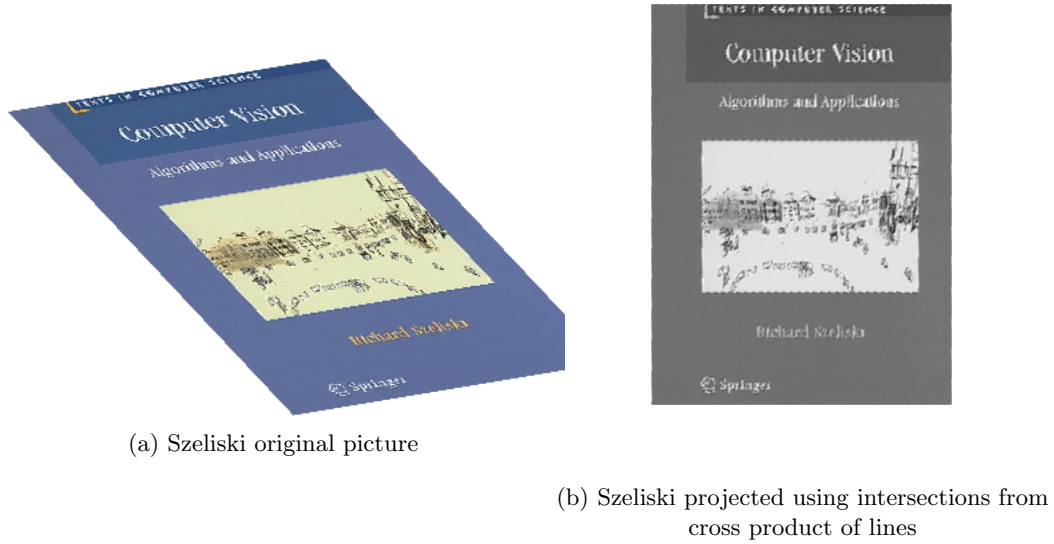


Figure 5: Projection