

T-61.5070 COMPUTER VISION, Exercise 8/08

Motivation

This exercise covers image segmentation and starts to look at shape descriptions.

1. It is possible to use the Hough transform for edge detection and segmentation. It is, however, necessary to know something about the shape of the object. How can an edge that resembles a straight line be located by the Hough transform?
2. Propose a Hough transform for looking for circles in an image. How can you do the same with the generalized Hough transform?
3. Chain-numbers can be used to describe the shape of an object. Determine a chain-number for
 - (a) a circle,
 - (b) an octagon.

What is the Levenshtein distance between these figures?

4. Boundaries can be described by Fourier descriptors. Give an example and show that the Fourier description of boundaries makes it easier to recognize a given object.