

Assignment Guidelines

- Write a short report to illustrate your work. Explore and include interesting results (necessary to achieve > 90%) and use full sentences to explain your reasoning.
- Reports may be handed in during the lecture on the due date.
- Feel free to discuss the work amongst one another, but write your own report and code.
- Working code has to be provided via e-mail, as an archive on the web or in an online code repository such as GitHub or BitBucket. You may use any open source language, such as Python, Octave, C#, etc.

Problem 1: Morphology

- (a) Implement the grey-level erosion and dilation operators described on p. 666 of G&W.
- (b) Use the operators to implement grey-level opening and closing.
- (c) Now, implement the morphological gradient and illustrate its effect.

Problem 2: The Hough Transform

Implement the straight line Hough-transform, and use it to identify prominent lines in an image of your choice. Tip: Use the morphological gradient implemented above or, alternatively, a Marr-Hildreth or Canny edge detector, to locate probable edge pixels.