MACHINE VISION

Examination 4.3.2010 Pekka Toivanen

1.a) Develop a procedure for computing the median of an n x n neighborhood.

b) Propose a technique for updating the median as the center of the neighborhood is moved from pixel to pixel.

c) What is the main application of Median Filtering?

How can sinusoidal shading be removed from the following corrupted text image (left)so that the obtained image looks like the one on the right?

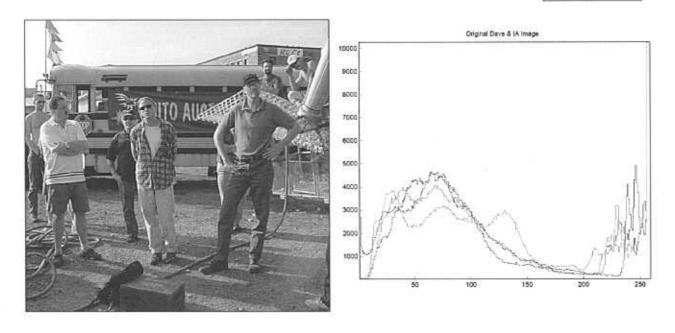
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Calculation of distance transforms and skeletons in binary images. What kind of distance metrics are possible in distance calculations?

Saturation Adjustment

original



* Let us consider the color image above.

a) How would you automatically find out if there is anything green in the image?

b) Describe the algorithm(s) (methods) to segment the red shirt of the man on right hand side.

Fourier Transform and its application in image processing. How is it possible to find out orientations of objects or edges using Fourier Transform?