

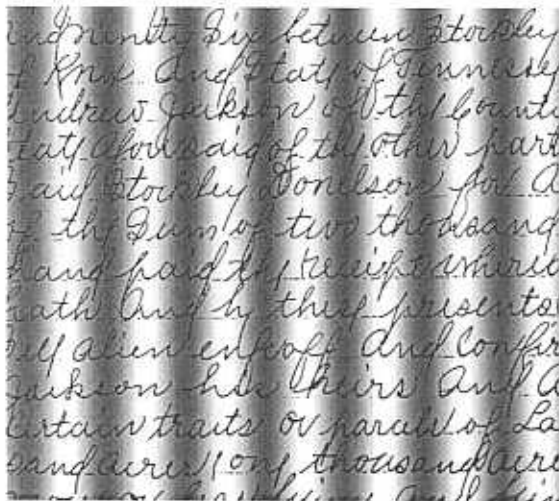
MACHINE VISION

Examination 4.3.2010

Pekka Toivanen

- Develop a procedure for computing the median of an $n \times n$ neighborhood.
- Propose a technique for updating the median as the center of the neighborhood is moved from pixel to pixel.
- What is the main application of Median Filtering?

2. 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?

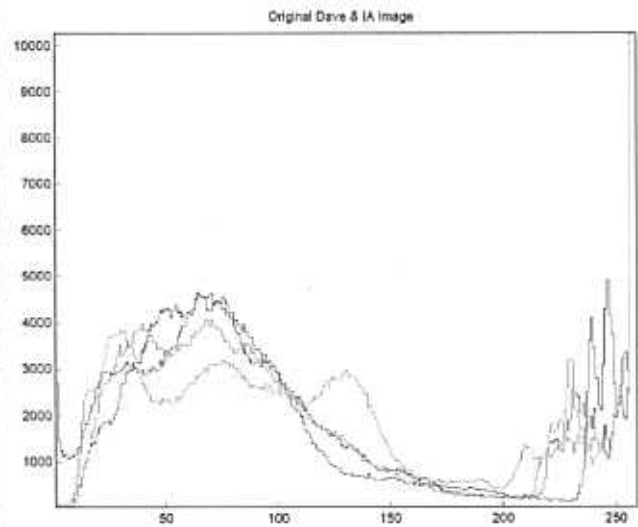


and ninety six between Stockley
of Knox And State of Tennessee
Andrew Jackson of the County
of Davidson of the other part
and Stockley Donelson for a
of the sum of two thousand
hand paid the receipt where
with and by these presents
full alien enfeof And confer
Jackson his heirs and a
certain tracts or parcels of La
and acres one thousand acres
more or less being well known

3. 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.
- How would you automatically find out if there is anything green in the image?
 - 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?