

Re: Standard set of image pre-processing filters for poorly hand printed images?

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*Source:* <http://sci.tech-archive.net/Archive/sci.image.processing/2007-11/msg00041.html>

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- *From:* Milind Joshi <[milind.a.joshi@xxxxxxxxx](mailto:milind.a.joshi@xxxxxxxxx)>
  - *Date:* Mon, 12 Nov 2007 16:33:19 -0000
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On Nov 8, 12:07 pm, aruzinsky <[aruzin...@xxxxxxxxxxxxxxxxxxxxxxxxx](mailto:aruzin...@xxxxxxxxxxxxxxxxxxxxxxxxx)> wrote:

There are filters to fill in broken lines in fingerprints which you should Google.

On Nov 5, 3:38 pm, Milind Joshi <[milind.a.jo...@xxxxxxxxx](mailto:milind.a.jo...@xxxxxxxxx)> wrote:

Hi,

Does anyone know of a standard filter or filters applied in sequence to a B/W hand printed images to fill in broken lines, etc., without affecting those characters that are well-written with complete strokes?

We have a bunch of images with different writing styles, applying a single set of filters on all of them deteriorates quality on those images that were good.

Also, applying filters and checking results to see if the filter was OK is too time-consuming.

Standard thickening/smoothing operations built into OCR/ICR engines didn't work very well, so we're going to have to write a custom image pre-processor for these images.

You can find a sample  
at [http://www.ideatechnosoft.com/sci.image.processing/2007\\_11\\_05\\_sci.ima...](http://www.ideatechnosoft.com/sci.image.processing/2007_11_05_sci.ima...)

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There are many more samples, so that should not be a problem if you want us to try out suggestions on a wider set of images.

What would be a general approach to arrive at a good sequence of image processing filters or to choose the best one for the job? Is there a filter out there that is recommended for this type of problem?

Any help, pointers, reading material, manuals, expert suggestions would be greatly appreciated!

Best Regards,  
Milind

That is actually quite a cool idea. We never looked into fingerprint recognition image pre-processing algorithms before, though there is a kind of regularity in fingerprint lines that is not found in handwriting... the general idea of extrapolating lines to "fill in the gaps" is a good one.

Regards,  
Milind

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