Subject: Re: similarity of two images, identifying overlapping regions
Posted by Craig Markwardt on Sun, 22 Jul 2007 07:07:18 GMT
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thomas.nehls@tu-berlin.de writes:
> Hi there,
>
>
> the case: There are two different images from X-Ray imagery showing
> both parts, but not exactly the same, of a soil sample. The two images
> were taken with different wavelengths L1 and L2, showing the
> distribution of different elements.
> The purpose is to calculate with these element distributions later.
...
> I thought about holding one of the images and moving the other before
> the first row by row, then column by column (like the doctors do it on
> the light screen with the photograps of our bones or brains :-)

You are talking about doing an image cross correlation, which can be
done quickly using an FFT. The trick to using the FFT will be to
zero-pad the images to at least double their original size.

Such an FFT can handle a shift but not a rotation or scale factor.
You also mention that the images may be distorted.

I believe that cartographers have to deal with this kind of situation
-- matching distorted images -- and I believe they solve it by
brute-force. Namely, picking and matching a good sample of control
points in both images, and spline-resampling one image to the grid of
the other.

Good luck!
Craig

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