Subject: Re: Medical Imaging Question
Posted by Patrick V. Ford on Mon, 16 Aug 1999 07:00:00 GMT
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In article <MPG.1221c12492ca7015989895@news.frii.com>, David Fanning <davidf@dfanning.com> wrote:

> Martin Schultz (m218003@modell3-d.dkrz.de) writes:
>
>>> One of the problems with the above scheme with nuclear medicine images is
>>> that there may be a few pixels that are several magnitude larger than all
>>> the
>>> other pixel, therefore using a range 0-100, the max value is set at 100
>>> and everything else falls into the range 0 to 10 for example. This can be
>>> corrected by truncating the max pixel value. Unfortunately, the vendors
>>> seem to be clueless how to do this other than manual trial and error
>>> method.
>>>
>>>
>> maybe I am too loud here, but shouldn't this kind of problem be easily
>> recognized by standard statistical outlier tests? That almost screams for
>> Struan's beloved histogram function, doesn't it? If you need something more
>> sophisticated, it appears that this problem is related to the problem of
>> determining biomass burning fires on satellite images (there they are
>> looking
>> for the hot spots you are trying to exclude). Basically, one would look for
>> outlier values and reject them only if no neighbouring pixel shows
>> similarily
>> high values. But, of course, this takes some processing time...
>
> This sounds like a Median filter to me. Fast, easy, and
> a hell of a lot easier than trying to work through the
> intricacies of the Reverse_Index keyword. :-(
>
> Cheers,
>
> David
>
> P.S. I have to confess that I *have* written a modified
> median filter function for a client recently, which only
> applies the filter to user-selected high pixels (cosmic
> rays screwing up the CCD camera in this case). To implement
> it properly I needed to use a Histogram. :-)

I know that this can be easily solved auotmatically since DesAcc inc did it with ImportAccess. Vendors don't want to spend effort on the non sexy things like this and spend their time of iterative reconstruction

methods. The advantage of the histogram method is that it still permits quantification. The too hot area are usually not the area of interest.

Regards

Patrick Ford
