Subject: Re: Convol with Kernel Dependency Of the Radius to the Middle
Posted by Martin Downing on Tue, 30 Oct 2001 13:40:37 GMT
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"Kay" <bente@uni-wuppertal.de> wrote in message
news:e143e8bc.0110230618.6339be6e@posting.google.com...
> Hi,
>
> have again a nice Problem ;-)
>
> I need a Convolution with a Kernel that depends on how far the Voxel
> is away from the Middle Of the Array.

I assume you mean that the function that describes the 3d kernel depends on
the radial (cartesian) distance of the image voxel from a point in the
image:
pseudo formula alert!
Image'(x,y,z) = Image [convolved_with] Kernel(R(x,y,z))
where R(x,y,z) = sqrt((X-Xo)^2+(Y-Yo)^2 + (Z-Zo)^2))

If so, I guess the question is, what is the dependency of the kernel on R?
If linear then maybe the radial aspect of the kernel is separable

Martin

>
> The Idee behind that is, that i have to simulate PET Pictures out of
> MRI Datasets (im working my diploma in the Medical Imaging).
>
> In the moment i have solved this Problem with convoluting on several

> picture up to 10 times (with a duration of round about 1minute for
> each (thanks to Jaco who made 1minute out of 45minutes i had before
> ;-).
>
> So the question is, if someone has the listing of the convol routines
> from IDL or any other idea???
>
>
> I believe that if I try this alone i will result in many many FOR
> loops.
>
> with regards
> Kay