

Re: when should I pad image before filtering?

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From: lucy (losemind_at_yahoo.com)

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"lucy" <losemind@yahoo.com> wrote in message
news:d20avh\$p2b\$1@news.Stanford.EDU...
> *I am always confused by the padding for image filtering.*
>
> *I have an 270x230 "image" and is to be filtered with a 250x250 "filter".*
>
> *I have made sure that the sum of all filter coefficients sum to be 1.*
>
> *In Matlab,*
>
> *sum(sum(filter)) = 1.0000,*
>
> *then I do image filtering:*
>
> *result=imfilter(image, filter, 'same');*
>
> *so the result is the also a 270x230 image... since I've used 'same'*
> *option, ...*
>
> *I am not sure if the result is correct or not...*
>
> *in fact, I even don't understand when a 270x230 image convolved with a*
> *250x250 filter, is the result meaningful at all?*
>
> *Anybody please give me some enlightenment?*
>
> *And Matlab has so many options: such as "replicate", "symmetric", etc:*
>
> *X Input array values outside the bounds of the array*
> *are implicitly assumed to have the value X. When no*
> *boundary option is specified, IMFILTER uses X = 0.*
>
> *'symmetric' Input array values outside the bounds of the array*
> *are computed by mirror-reflecting the array across*
> *the array border.*
>
> *'replicate' Input array values outside the bounds of the array*

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- > *are assumed to equal the nearest array border*
- > *value.*
- >
- > *'circular' Input array values outside the bounds of the array*
- > *are computed by implicitly assuming the input array*
- > *is periodic.*
- >
- > *When do we choose which option?*
- >
- >
- >

Strange. I really don't understand this:

what happens if I have a 270x230 image convolved with a 600x600 filter using Matlab function?

result=imfilter(image, filter, 'same')?

what happens if I have a 270x230 image convolved with a 100 x 100 filter using the same matlab function?

Are these results still correct?

I understand the small case: if an image 270x230 convolved with a 3x3 filter, I understand, the image will have false values on its 4 side 1pixel width boundary. All other values should be correct value...