
Subject: Re: Displaying thicker lines on an image
Posted by [David Fanning](#) on Sat, 21 May 2011 13:40:46 GMT
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wlandsman writes:

> I have been using edge detection algorithms, so i end up with an image with values of 255 on the lines defining the edges, and zeros everywhere else. However, when I display the image, the lines don't show up well, so for display purposes I want to make the lines thicker. If I had created the lines with the PLOT command, I would adjust the THICK keyword. But for an image I think I need an algorithm that will identify neighboring pixels to the existing lines.

You might try dilating with a cross as a structuring element.

Cheers,

David

--

David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: <http://www.idlcoyote.com/>
Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: Displaying thicker lines on an image
Posted by [David Fanning](#) on Sat, 21 May 2011 13:49:47 GMT
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David Fanning writes:

> You might try dilating with a cross as a structuring element.

Here is an example:

```
image = cgdemodata(21)
edgeImage = (sobel(image) gt 220)
cgdisplay, 800, 400
!p.multi=[0,2,1]
cgimage, edgeImage, /scale
k = intarr(3,3)
k[*,*]=1
k[1,*] = 1
print, k
cgimage, dilate(edgeImage, k), /scale
!p.multi=0
```

END

Cheers,

David

--

David Fanning, Ph.D.

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Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: Displaying thicker lines on an image

Posted by [Bringfried Stecklum](#) on Mon, 23 May 2011 06:56:54 GMT

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wlandsman wrote:

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> values of 255 on the lines defining the edges, and zeros everywhere else.
> However, when I display the image, the lines don't show up well, so for
> display purposes I want to make the lines thicker. If I had created the
> lines with the PLOT command, I would adjust the THICK keyword. But for an
> image I think I need an algorithm that will identify neighboring pixels to
> the existing lines. Thanks, --Wayne

Dear Wayne,

why don't you just convolve the binary image with a Gaussian kernel of a few pixels width? You may clip the resulting image at some level chosen to produce the desired line thickness if it needs to be binary again.

This slight blurring (at the expense of some contrast) is also recommended if IDL line plots are difficult to discern when presented with a beamer.

Regards, Bringfried

Subject: Re: Displaying thicker lines on an image

Posted by [wlandsman](#) on Tue, 24 May 2011 14:59:19 GMT

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Thanks David and Bringfried,

Both dilation with a cross and Gaussian smoothing work fine, though the dilation is definitely

quicker.

Incidentally, I tried out the new `GAUSS_SMOOTH()` function introduced in IDL 8.1. (It simply computes a Gaussian kernel and applies the `CONVOL` function.) I was annoyed to discover that it does nothing to integer images, though no warning is given. The reason is that the kernel data type is forced to match that of the image, and the Gaussian kernel is created with a peak value of 1, so all other kernel pixels are truncated to zero.

Instead, `GAUSS_SMOOTH()` should convert the input integer data to float, apply the smoothing, and then round back to integer. --Wayne
