Subject: Re: ROI application...

Posted by David Fanning on Wed, 02 Oct 2002 20:11:42 GMT

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Richard Tyc (richt@sbrc.ca) writes:

- > Which tools, functions objects etc could be used to the following image
- > processing task:

>

- > Highlight a region within an image with a solid color based on a signal
- > value range and then create a boundary line around this region (ROI). We
- > hope to use IDL to perform what an existing medical workstation does for one
- > specific task highlight a region within a greyscale MRI image (eg. a
- > tumour) to generate a boundary curve based on the relative intensity of the
- > pixels associated with the ROI.
- > Lets say the tumor represented pixel intensity levels of 155-200. If we set
- > all pixels in this range to be red, we then need to generate a boundary
- > curve outlining this 'red' region.

>

> Could IDLgrROI and LABEL\_REGION do this?

Probably, but it might be slow. If your region is contiguous, and you want to have a boundary line around it, then this Find\_Boundary program on my web page works nicely for me. (The Contour command is another alternative.)

http://ftp.dfanning.com/pub/dfanning/outgoing/misc/find boun dary.pro

Cheers,

David

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Coyote's Guide to IDL Programming: http://www.dfanning.com/

Toll-Free IDL Book Orders: 1-888-461-0155

Subject: Re: ROI application...

Posted by Dick Jackson on Wed, 02 Oct 2002 20:46:34 GMT

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"Richard Tyc" <richt@sbrc.ca> wrote in message news:hjlm9.16622\$0c5.3655@news2.mts.net...

> Application Question:

>

- > Which tools, functions objects etc could be used to the following image
- > processing task:

>

- > Highlight a region within an image with a solid color based on a signal
- value range and then create a boundary line around this region (ROI).
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> Could IDLgrROI and LABEL\_REGION do this?

For some great insight as to what IDLgrROIs can do, try out

IDL> XROI, /Test

Grab the pencil tool, draw an ROI in that 'flat' area of the image on the far right, use right-mouse on the ROI edge you just drew, choose Grow Region:By Threshold, and see if that's the kind of thing you're looking for. (it uses the min/max of the area \*you\* drew and grabs any neighboring pixels in that range) The boundary is done (as David mentioned as a possibility) by a Contour command. You can find how they did it in IDL's lib/utilities/XROI.pro, procedure xroi\_\_GrowSelectedROI.

Even if you don't use Object Graphics, the IDLanROI class ("analysis" class from which "graphics" class IDLgrROI inherits) is very useful for working with ROIs.

Cheers,

--

-Dick

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