
Subject: Re: ROI application...

Posted by [David Fanning](#) on Wed, 02 Oct 2002 20:11:42 GMT

[View Forum Message](#) <> [Reply to Message](#)

Richard Tyc (richt@sbr.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_boundary.pro

Cheers,

David

--

David W. Fanning, Ph.D.

Fanning Software Consulting, Inc.

Phone: 970-221-0438, E-mail: david@dfanning.com

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

[View Forum Message](#) <> [Reply to Message](#)

"Richard Tyc" <richt@sbr.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).
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 ?

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

Dick Jackson / dick@d-jackson.com
D-Jackson Software Consulting / <http://www.d-jackson.com>
Calgary, Alberta, Canada / +1-403-242-7398 / Fax: 241-7392
