Subject: Help in Image Analysis
Posted by Bharani on Tue, 21 Feb 2006 10:33:37 GMT
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hi all

I am a Student.I am working on IDL for Image Analysis..

I Have an Image Got from a Radar(Not from Satellite).I want to Find the Attributes of this Image.
I want to Know how i can Cut the Image in Lengthwise and Breadth wise ?
When i Cut the Image There is a Main Lobe and Some Sidelobes for the Image.
I want to Find the Peak of the Mainlobe .. the width of the Mainlobe at the Half of the Height?
and also the Peak of the Sidelobes that are Present.

Can anyone Help me in Proceeding Further...

thanx in Advance...

Bharani

Subject: Re: Help in Image Analysis
Posted by Peter Clinch on Wed, 22 Feb 2006 14:06:36 GMT
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Bharani wrote:
> The Data is a Raw Data from the Radar..

Reading raw data is easy enough, just use READU which will take in byte streams. There are a couple of gotchas though. First up, you'll need to know how the data is fomatted in terms of bytes per pixel and, possibly significantly, whether multi-byte data points are big or little endian.
Once you've got that sorted, just assign an array big enough for everything in the relevant data type and then you can use REFORM to put it into the size/shape you want.

>> From the Converted 2D image i have to find the Attributes.. that means
> from a 2D image i have to Find the Attibutes.
>
> I want to Find the Peak of the Mainlobe .. the width of the Mainlobe at
>
> the Half of the Height?
> and also the Peak of the Sidelobes that are Present.

That should be pretty easy with stuff like the iTools image profiler
and/or functions like MAX.

Pete.
--
Peter Clinch Medical Physics IT Officer
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Fax 44 1382 640177 Dundee DD1 9SY Scotland UK
net p.j.clinch@dundee.ac.uk http://www.dundee.ac.uk/~pjclinch/

Subject: Re: Help in Image Analysis
Posted by Bharani on Wed, 22 Feb 2006 15:47:54 GMT
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But i wanted to know if i can Proceed with a Jpeg Image and get the
Details i wanted to proceed... or Do i need anyother Data else then the
Jpeg Image... let me know this ...

Peter Clinch schrieb:

> Bharani wrote:
>> The Data is a Raw Data from the Radar..
>
> Reading raw data is easy enough, just use READU which will take in byte
> streams. There are a couple of gotchas though. First up, you'll need
> to know how the data is fomatted in terms of bytes per pixel and,
> possibly significantly, whether multi-byte data points are big or little
> endian.
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> it into the size/shape you want.
>
>>> From the Converted 2D image i have to find the Attributes.. that means
>> from a 2D image i have to Find the Attibutes.
>>
>> I want to Find the Peak of the Mainlobe .. the width of the Mainlobe at
>>
>> the Half of the Height?
>> and also the Peak of the Sidelobes that are Present.
>
> That should be pretty easy with stuff like the iTools image profiler
> and/or functions like MAX.
>
> Pete.
> --
> Peter Clinch Medical Physics IT Officer

> Tel 44 1382 660111 ext. 33637 Univ. of Dundee, Ninewells Hospital
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Subject: Re: Help in Image Analysis
Posted by Peter Clinch on Wed, 22 Feb 2006 16:10:20 GMT
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Bharani wrote:
> But i wanted to know if i can Proceed with a Jpeg Image and get the
> Details i wanted to proceed... or Do i need anyother Data else then the
> Jpeg Image... let me know this ...

You said you have raw data, and a JPEG isn't raw data but a formatted image.

With raw data you just have a stream of data bits which you will need to assemble into an image before you can take any measurements from it. If you read a JPEG into IDL or if you read in raw data and reform it into an image, in either case you will have arrays of data values in which you can search for the values you are looking for.

Pete.
--
Peter Clinch Medical Physics IT Officer
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Subject: Re: Help in Image Analysis
Posted by btt on Wed, 22 Feb 2006 16:29:35 GMT
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Bharani wrote:
> But i wanted to know if i can Proceed with a Jpeg Image and get the
> Details i wanted to proceed... or Do i need anyother Data else then the
> Jpeg Image... let me know this ...
>
>

Hi,

I suggest that you look in the online Image Processing with IDL guide to get familiar with the (numerous) image processing tools available to you in IDL.

Cheers,
Ben

Subject: Re: Help in Image Analysis
Posted by Bharani on Wed, 22 Feb 2006 16:53:19 GMT
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I have a File with extension .RKD extesion.... this is the Data File
that i have with me ... and i want to know how i can read this data
File into IDL and then Proceed further....

Subject: Re: Help in Image Analysis
Posted by Bharani on Wed, 22 Feb 2006 16:53:49 GMT
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I have a File with extension .RKD extesion..the Size of this file is
Approximately 10MB.. this is the Data File that i have with me ... and
i want to know how i can read this data File into IDL and then Proceed
further....

Subject: Re: Help in Image Analysis
Posted by Peter Clinch on Thu, 23 Feb 2006 09:04:06 GMT
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Bharani wrote:
> I have a File with extension .RKD extesion..the Size of this file is
> Approximately 10MB.. this is the Data File that i have with me ... and
> i want to know how i can read this data File into IDL and then Proceed
> further....

Find out the format of the data points (is it bytes, unsigned 2 byte
integers, IEEE floating point or whatever) and allocate an array big
enough for the file (i.e., if it's got 10 million byte size data points
you'll want data=BYTARR(10000000), if it's 5 million two-byte signed
integers you'll want data=INTARR(5000000) and so on).

Then use OPENR to open the file for reading and use READU to put the
contents of the file in the array (don't forget to CLOSE the data file).
  Once it's there you have your data in IDL and can start exploring.
You may want to use REFORM to make the 1D array you have to start with
either 2 or 3 D as appropriate.

Pete.
--

Peter Clinch Medical Physics IT Officer
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Subject: Re: Help in Image Analysis
Posted by Bharani on Thu, 02 Mar 2006 17:02:30 GMT
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hi Peter..
Thanx for the Suggestion...
I have Read the File(With data) and also i have brought the Data to my
Program...
I have now the Image as 3D ... and NOw i am working on to get the Image
into 2D ...
the Method i am trying to is Just as the same u have Suggested...
I am Considering only a Small part of the Whole Image and from where i
can get the Required attributes...
but when i consider the Small part...i think it is really hard for me
to spot it as a 2D ...
How can i proceed further??

Subject: Re: Help in Image Analysis
Posted by David Fanning on Thu, 02 Mar 2006 18:05:37 GMT
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Bharani writes:

> I have Read the File(With data) and also i have brought the Data to my
> Program...
> I have now the Image as 3D ... and NOw i am working on to get the Image
> into 2D ...
> the Method i am trying to is Just as the same u have Suggested...
> I am Considering only a Small part of the Whole Image and from where i
> can get the Required attributes...
> but when i consider the Small part...i think it is really hard for me
> to spot it as a 2D ...
> How can i proceed further??

Any 2D array, which is what you have in front of you,
can be considered an "image". All you need do to is
pull out of the data the rows you are interested in
for further analysis:

```
interestingStuff = data[*, 280:320]
```

To display it as an image, you need to byte scale
it (and perhaps take the absolute value, since your
data is complex).

  TV, BytScl(Abs(interestingStuff))

Now you are ready to perform any analysis that seems
appropriate. Since the dynamic range of this data
is fairly small, you might want to stretch the data
in some way to view it (or, even, before you analyze
it). See this article:

  http://www.dfanning.com/ip_tips/xstretch.html

Cheers,

David
--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.dfanning.com/

Subject: Re: Help in Image Analysis
Posted by David Fanning on Thu, 02 Mar 2006 18:30:28 GMT
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David Fanning writes:

> Any 2D array, which is what you have in front of you,
> can be considered an "image". All you need do to is
> pull out of the data the rows you are interested in
> for further analysis:
>
>   interestingStuff = data[*, 280:320]
>
> To display it as an image, you need to byte scale
> it (and perhaps take the absolute value, since your
> data is complex).
>
>   TV, BytScl(Abs(interestingStuff))
>
> Now you are ready to perform any analysis that seems
> appropriate.

I'd try to find the row that had the maximum
value in the interesting stuff:

```
dims = Size(interestingStuff, /Dimension)
s = Scale_Vector(Abs(interestingStuff), 0, 1)
maxVal = Max(s, location)
row = location / dims[0]
Plot, s[*,row]
```

Now, you can easily find the peak values in this row, etc.

Cheers,

David

--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.dfanning.com/
