Subject: Re: Correlation between bands using IDL Posted by d.poreh on Tue, 03 Aug 2010 12:34:19 GMT

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On Aug 3, 2:30 am, Lavanya < lavany...@gmail.com> wrote:

- > Hi,
- >
- > I am pretty much new in using IDL. I have been trying to read
- > multiband image data using envi select and envi file guery, where i
- > get the information about the data im using.
- > Now how could i find the correlation between any two bands (here the
- > number of bands i have is 242)
- > Finally i need to generate a output correlation matrix of 242 * 242.
- > Please help me how can i go about.
- >
- > Thanks

It does not make sense to find correlation matrix of 242 * 242. I think what you need is using the Principal component analysis (PCA). With this you

could find the maximum variance which presents the maximum variation. And you can decrease your number of bands to few factors. David has a very good article about that: http://www.dfanning.com/code_tips/pca.html Cheers

Dave

Subject: Re: Correlation between bands using IDL Posted by rogass on Wed, 04 Aug 2010 06:49:28 GMT View Forum Message <> Reply to Message

On 3 Aug., 11:30, Lavanya < lavany...@gmail.com> wrote:

- > Hi,
- >
- > I am pretty much new in using IDL. I have been trying to read
- > multiband image data using envi_select and envi_file_query, where i
- > get the information about the data im using.
- > Now how could i find the correlation between any two bands (here the
- > number of bands i have is 242)
- > Finally i need to generate a output correlation matrix of 242 * 242.
- > Please help me how can i go about.
- >
- > Thanks

Hi.

i don't understand what you want to do. Do you want to correlate pixel1 band1 with pixel2 band2, pixel1 band1 with pixel2 band3 and so on for all pixel and bands?

Subject: Re: Correlation between bands using IDL Posted by Lavanya on Thu, 05 Aug 2010 05:10:16 GMT

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On Aug 4, 11:49 am, chris <rog...@googlemail.com> wrote:
> On 3 Aug., 11:30, Lavanya < lavany...@gmail.com > wrote:
>
>> Hi.
>> I am pretty much new in using IDL. I have been trying to read
>> multiband image data using envi select and envi file guery, where i
>> get the information about the data im using.
>> Now how could i find the correlation between any two bands (here the
>> number of bands i have is 242)
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>
>> Thanks
> Hi.
> i don't understand what you want to do. Do you want to correlate
> pixel1 band1 with pixel2 band2, pixel1 band1 with pixel2 band3 and so
> on for all pixel and bands?
```

I wanted to find the correlation between band1 band2, band1 band 3, band 1 band 4 band 2 band 1, band 2 band 3, band 2 band 4 and so on. Final result should be of the matrix form n * n where n will be the number of bands of the same image. Here i am using only one image which has 'n' bands

Please help

> Regards Chris

-Lavanya

Subject: Re: Correlation between bands using IDL Posted by rogass on Thu, 05 Aug 2010 07:25:58 GMT View Forum Message <> Reply to Message

On 5 Aug., 07:10, Lavanya <lavany...@gmail.com> wrote: > On Aug 4, 11:49 am, chris <rog...@googlemail.com> wrote:

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>
>
>> On 3 Aug., 11:30, Lavanya < lavany...@gmail.com> wrote:
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>>> multiband image data using envi_select and envi_file_query, where i
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> band1 band2, band1 band 3, band 1 band 4
> band 2 band 1, band 2 band 3, band 2 band 4 and so on. Final result
> should be of the matrix form n * n where n will be the number of bands
> of the same image. Here i am using only one image which has 'n' bands
>
> Please help
> -Lavanya
Ok, as far as I understand you want to compute the Band-To-Band
correlations. You could do this (not vectorized) in this way:
IDL> n=2421
IDL> image size x=10
IDL> image_size_y=10
IDL> image=randomn(seed,image_size_x,image_size_y,n)
IDL> I=lindgen(n,n) mod n
IDL> xind=I[*]
IDL> yind=(temporary(transpose(I)))[*]
IDL> corr=fltarr(n,n)
IDL> for i=01,(n*n)-11 do corr[i] = correlate((image[*,*,xind[i]])[*],
```

(image[*,*,yind[i]])[*])
IDL> corr=reform(corr,n,n,/over)
IDL> tvscl, corr

Hope it helps

CR