Subject: Re: Correlation between bands using IDL
Posted by Lavanya on Fri, 06 Aug 2010 06:05:02 GMT
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On Aug 5, 12:25 pm, chris <rog...@googlemail.com> wrote:
> On 5 Aug., 07:10, Lavanya <lavany...@gmail.com> wrote:
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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_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?
>
>>> Regards Chris
>
>> 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
>
>> -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=242l
> IDL> image_size_x=10
> IDL> image_size_y=10

> IDL> image=randomn(seed,image_size_x,image_size_y,n)
> IDL> l=lindgen(n,n) mod n
> IDL> xind=l[*]
> IDL> yind=(temporary(transpose(l)))[*]
> IDL> corr=fltarr(n,n)
> IDL> for i=0l,(n*n)-1l do corr[i] = correlate((image[*,*,xind[i]])[*],
> (image[*,*,yind[i]])[*])
> IDL> corr=reform(corr,n,n,/over)
> IDL> tvscl, corr
>
> Hope it helps
>
> CR

Thank you so much for the reply. Again im facing an error while i was trying to execute with two bands of size 4980*4200 pixels and getting a correlation matrix of 2*2.
Here the code below. Please help

```
image1 = READ_TIFF('\Program Files\ITT\IDL70\examples\data
\image_band1.tif')
image2 = READ_TIFF('\Program Files\ITT\IDL70\examples\data
\image_band2.tif')

n=2
l=lindgen(n,n) mod n
xind=l[*]
yind=(temporary(transpose(l)))[*]
corr=fltarr(n,n)
for i=0l,(n*n)-1l do corr[i] = correlate((image1[*,*,xind[i]])[*], $
(image2[*,*,yind[i]])[*])
corr=reform(corr,n,n,/over)
help, corr
print, corr
END
```