Subject: Multiple linear regression on 3D instead of 2D Y-vectors?
Posted by leatherback on Wed, 30 Nov 2005 01:30:57 GMT
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Hi All,

As mentioned in my previous post: I am trying to run a code somewhat more efficient, since it is now taking days to process my data. Finally I think I have zoomed in a bit on the core of the problem (thx andrew!).

Basically, I am performing a stepwise regression on field spectral measurements, within which a repetition loop (n=10,000) runs. (I am trying to get the mean goodness of fit per waveband over these 10,000 repetitions, basicially performing a bootstrapping routine).

At the moment I am looping through my spectra one band at a time, perform the regression, go to the next band, untill the last band has been analyzed, and then start over again, repeating 10,000 times. So currently for each band:

```
x = fltarr(48)    ; Response array, characteristics of 48 samples
y = fltarr(3,48) ; 3 predictors for 48 samples
TestNStat = regress(y, x, mcorrelation=ThisNCorrelation, /double,
measure_errors=errorvec)
```

resulting in a single floating point correlation value, ThisNCorrelation.

This is very time consuming, and I was wondering how to use the strength of IDL's array calculations for this. If I could do a regression using a 3D Y-array, I could speed the whole thing up quite a bit. Basically:

```
x = fltarr(48) (Or perhaps: x=fltarr(48, 2000) ?)
y = fltarr(3,48, 2000)
```

Output: A fltarr(2000) of correlation values.

Can someone please tell me how I can achieve this?

Thanks so much for your help!

Yours,

Jelle.