
Subject: Re: Principal component analysis
Posted by [Haje Korth](#) on Wed, 05 Dec 2007 17:02:28 GMT
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THanks, I guess I was expecting the whole package for a routine with that name. And the help was not helping either. :-)

"Vince Hradil" <hradilv@yahoo.com> wrote in message
news:d447b810-a195-4e34-8dd6-a353ba4a3ac9@b40g2000prf.google groups.com...
> On Dec 5, 10:47 am, "Haje Korth" <haje.ko...@nospam.jhuapl.edu> wrote:
>> Yup, that'll do it. I am still not sure I understand the logic behind
>> this.
>> I though the correlation is part of the PCA.
>>
>> "Vince Hradil" <hrad...@yahoo.com> wrote in message
>>
>> news:8362380a-217a-45d2-b7c4-0198e5931b39@y5g2000hsf.googleg rroups.com...
>>
>>> On Dec 5, 10:08 am, "Haje Korth" <haje.ko...@nospam.jhuapl.edu> wrote:
>>>> I have tried that, it gives
>>>> IDL> ev=imsl_princ_comp(correlate(a,/cov)) & print,ev
>>>> 45.2906 3.70938-2.65683e-006
>>>
>>>> These EVs are the same as you get using PCOMP with /COV keyword.
>>>
>>>> "Vince Hradil" <hrad...@yahoo.com> wrote in message
>>>
>>>> news:54fc6ed8-ccd7-4ac6-8e0d-09f5d190eeac@o6g2000hsd.googleg rroups.com...
>>>
>>>> > On Dec 5, 9:12 am, Vince Hradil <hrad...@yahoo.com> wrote:
>>>> >> On Dec 5, 8:00 am, "Haje Korth" <haje.ko...@nospam.jhuapl.edu>
>>>> >> wrote:
>>>>
>>>> >> > Hi,
>>>> >> > I am puzzled by principal component analysis. I calculated the
>>>> >> > eigenvalues
>>>> >> > using both PCOMP and IMSP_PRINC_COMP routines. Could someone
>>>> >> > enlighten
>>>> >> > me
>>>> >> > why the results are completely different? I have tried different
>>>> >> > keywords to
>>>> >> > see whether I can match them by trial and error, but I had no
>>>> >> > success.
>>>> >> > There
>>>> >> > must be someone out there who undertstands this much better than
>>>> >> > I
>>>> >> > do.

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>>
>>>> >> > Thanks so much,
>>>> >> > Haje
>>
>>>> >> > IDL> a=[[1,-2,-6],[-2,1,-3],[-6,-3,5]]
>>>> >> > IDL> pca=pcomp(a,eigenvalues=ev) & print,transpose(ev)
>>>> >> >      2.24227   0.757732   0.000000
>>>> >> > IDL> ev=imsl_princ_comp(a) & print,ev
>>>> >> >      9.53359   -5.19751   2.66392
>>
>>>> >> From the HELP:
>>
>>>> >> Syntax
>>>> >> Result = IMSL_PRINC_COMP(covariances [, /COV_MATRIX]
>>>> >> [, /CORR_MATRIX] [, CORRELATIONS=variable] [, CUM_PERCENT=variable]
>>>> >> [,
>>>> >> DF=variable] [, /DOUBLE] [, EIGENVECTORS=variable] [,
>>>> >> STDEV=variable) )
>>
>>>> >> Note that IMSL_PRINC_COMP requires that you pass the covariance or
>>>> >> correlation matrix - not the vectors.
>>
>>>> > so maybe try
>>>> > ev=imsl_princ_comp(correlate(a,/covariance) & print, ev
>>>> > (I don't have an analyst license)
>>
>>> There you go 8^)
>>> How about
>>> ev=imsl_princ_comp(correlate(a)) & print, ev
>
> Oh, yes correlation IS part of PCA, it's just that IMSL decided to let
> the user do that part him/herself. IMSL_PRINC_COMP calculates the
> principal components of the cov/cor matrix. Calculating these
> principal components is just part of "Principle Components Analysis".
> IMSL leaves it up to the user to decide how to implement the principal
> components in his/her analysis.

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