
Subject: Re: correlation coefficient and confidence level
Posted by [gunvicsin11](#) on Mon, 10 Feb 2014 06:09:55 GMT
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On Monday, February 10, 2014 8:05:57 AM UTC+5:30, David Fanning wrote:

> sid writes:

>

>

>

>> I tried idl routines correlate and coyote's cgscatter2d, but both doesn't give, confidence level for the correlation coefficient.

>

>> Then I tried r_correlate, which gives significance level, but I guess significance level is different from confidence level.

>

>> So I have no idea how to do this.

>

>

>

> The first article that appears when I use Google to search "confidence

>

> correlation coefficient" is this article:

>

>

>

> <http://www2.sas.com/proceedings/sugi31/170-31.pdf>

>

>

>

> Low and behold, there is code in there that calculates the confidence

>

> level of the correlation coefficient! Lucky! But, you know, sometimes it

>

> happens. :-)

>

>

>

> Simply translating the SAS code to IDL (I'm pretty sure you could have

>

> done this, if I managed it), I get this:

>

>

>

> n = 101

>

> data_1 = cgDemoData(1)+ RandomU(-3L, n) * 10

>

> data_2 = cgDemoData(1)+ RandomU(-5L, n) * 10

```

>
> cgScatter2D, data_1, data_2
>
>
>
> rho = Correlate(data_1, data_2)
>
> fisherTransform = 0.5*(alog(1+rho) - alog(1-rho))
>
> sigmaz = 1.0 / Sqrt(n-3)
>
> l_95 = fisherTransform - (1.96 * sigmaz)
>
> h_95 = fisherTransform + (1.96 * sigmaz)
>
>
>
> lo95 = (exp(2*l_95)-1)/(exp(2*l_95)+1)
>
> hi95 = (exp(2*h_95)-1)/(exp(2*h_95)+1)
>
> Print, 'Low 95% Confidence Level: ', lo95
>
> Print, 'High 95% Confidence Level: ', hi95
>
> END
>
>
>
> For a sanity check, I used another page from my Google search to find a
>
> confidence level calculator. I plugged my numbers in and they matched
>
> more or less:
>
>
>
>
>
>
>
> I spent about 45 minutes on this, if you feel like you want to make a
>
> contribution to the work.
>
>
> Cheers,

```

>
>
>
> David
>
> --
>
> David Fanning, Ph.D.
>
> Fanning Software Consulting, Inc.
>
> Coyote's Guide to IDL Programming: <http://www.idlcoyote.com/>
>
> Sepore ma de ni thue. ("Perhaps thou speakest truth.")

Respected sir,

I have tried the website "<http://vassarstats.net/rho.html?>" and the one above also. But what I want to do is to get the confidence level of how well the two data sets are correlating. How much % confidence level the correlation coefficient indicates.

thanking you

sid
