Subject: Re: Generation of another Gaussian random variable from a given one...
Posted by Jim Pendleton on Sat, 28 Jan 2017 04:54:49 GMT
View Forum Message <> Reply to Message

On Friday, January 27, 2017 at 9:29:50 PM UTC-7, dave poreh wrote:
> On Saturday, January 28, 2017 at 7:45:38 AM UTC+3:30, dave poreh wrote:
>> Folks,
>> I have a Gaussian random variable with zero mean, and variance (f_x). I need to generate another Gaussian random variable with zero mean, and another variance, that would be correlated with the first one (f_x) with the correlation coefficient of say *r*.
>> I need some suggestions...
>> Thanks for any kind of helps in advances,
>> Cheers,
>> Dave
>
> ... I mean at the end we should have:
> corr(f_x, f_y) = r
> The correlation between two Gaussian random variable with zero mean, and variance should be = r

If no IDL solution is quickly forthcoming, there's a similar discussion on stackexchange.com, with an algorithmic description. http://stats.stackexchange.com/questions/15011

An implementation is provided in R. I'm no expert on R syntax, but it looks like the code could be translated from R to IDL.

For validation of an IDL implementation against this reference, you could call R directly via python and the rpy2 bridge.

http://www.harrisgeospatial.com/Company/PressRoom/Blogs/IDLDataPointDetail/TabId/902/ArtMID/2926/ArticleID/14718/Calling-the-R-Statistical-Package-from-IDL-via-Python.aspx

Jim P.