Re: conditional multivariate normal distribution

Source: http://sci.tech−archive.net/Archive/sci.stat.math/2007−10/msg00238.html

* *From*: Richard Ulrich <Rich.Ulrich@xxxxxxxxxxx>
* *Date*: Tue, 23 Oct 2007 20:48:31 −0400

On Mon, 22 Oct 2007 16:57:00 +0100, "David Jones" <dajxxxx@xxxxxxxxx>
wrote:

> jstar wrote:
>
>> Hi all
>>
>> First of all, I am new here but I am not new to statistics. But I
>> need your help on this one:
>>
>> I do have a multivariate normal distribution: x~p(mu,sig)
>>
>> the vector x has to groups of variables, those that I know are below

I'm curious about the language, or notation.

You seem to be saying that certain elements x_i of x are
always less than zero, and other elements are always
greater than zero.

Then you divide the vector x into two parts.
And then, condition by something that is true by definition.
SO, I don't see a question. What am I missing?

>> zero (x_bz), and those that I know are above zero (x_az).
>> I am interested in the conditional distribution of the x above zero:
>> p(x_az|x_bz<0). Can someone help me derive this distribution or is
>> this a known distribution I was to stupid to find?

> It is not something for which there are simple formulae, although there may be something for
> the 2 variate case. General formulae can be derived by working with the multivariate CDF to
> get first a conditional multivariate CDF and then the correspnsing density if necessary.
>
> David Jones

David seemed to understand it....

--
Rich Ulrich, wpilib@xxxxxxxx
http://www.pitt.edu/~wpilib/index.html
.