

Re: Bell-curve distribution wanted

Source: <http://sci.tech-archive.net/Archive/sci.math/2007-02/msg05292.html>

- *From:* "Nomen Lapetos" <nospam@xxxxxxxxxxx>
 - *Date:* Wed, 28 Feb 2007 14:00:32 -0600
-

"Michael Stemper" <mstemper@xxxxxxxxxxxxxxxx> wrote in message <news:200702281720.11SHKBXm102824@xxxxxxxxxxxxxxxxxxxxxxxx>

For a simulation that I'm doing, I'd like to be able to generate pseudo-random numbers with a "bell curve" distribution. My only course in probability and statistics was one semester in high school, in the late 1960s, and I didn't pay attention.

Given a random number in the interval [0.0,1.0], I can generate a number in the interval [-1.0,1.0] that's somewhat more likely to be in the middle than at the ends by simply multiplying it by its absolute value. Cubing it will, of course, squeeze its distribution in towards the center even more.

I tried walking up and down through the range, driven by coin flips, but that gives too narrow a distribution if I use more than a few flips.

It seems to me that there must be a function that takes numbers uniformly distributed over one range and produces numbers distributed in a bell curve with a given standard deviation. What would a function that does this look like? It doesn't even have to be exact, if there's a choice between a complex function that is exact and a simple one that's close (FSVO "close").

Bell curve does not fit into an interval. You have to truncate it.