

Re: Sufficient Statistics

Source: <http://sci.tech-archive.net/Archive/sci.stat.math/2008-01/msg00007.html>

- *From:* hrrubin@xxxxxxxxxxxxxxxxxxxxxxxx (Herman Rubin)
 - *Date:* 2 Jan 2008 12:26:24 -0500
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In article <61503fe0-cbcc-4483-be06-ab52e9115f61@xx>, Yue <dariahuangster@xxxxxxxx> wrote:

Dear all,
I was just reading some theoretical statistics notes and found a sentence which puzzles me:
"
the entire data is always sufficient, so we need minimal sufficiency.

Do anyone know the explanation of the first part please?

thanks very much!

Suppose one has a statistical problem, with data D and a probability model with states of nature W . Then a function of the data S (it may be multidimensional) is sufficient if any inference done from the full data can be matched for all states of nature simultaneously by using the statistic. This is NOT the usual definition, which gives easier ways to verify sufficiency.

Examples are the sample mean and variance for normal distributions, and the arithmetic and geometric means for Gamma distributions. The set of likelihood ratios is always a minimal sufficient statistic; it is not always convenient.

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This address is for information only. I do not claim that these views are those of the Statistics Department or of Purdue University.
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