

Re: optimization

Source: <http://sci.tech-archive.net/Archive/sci.math.num-analysis/2006-03/msg00185.html>

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 - *Date:* Tue, 14 Mar 2006 11:01:04 +0000 (UTC)
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In article <1142329904.374048.142870@xx>, chrismgp@xxxxxxxx writes:

Dear all,

I have a question about heuristics that I hope someone could help me with.

Imagine a general heuristic problem. In general, as one increases the number of variables that need to be optimized, the number of local optima in this optimization surface increases. Although this seems to make sense intuitively, I'm looking for papers/books/people addressing this issue. In particular, I'd like to know if this increase in the number of local optima is a general phenomenon in optimization problems.

I'd appreciate any input you might have.

Please send responses to my email: jas2339@xxxxxxxx

Thanks a lot!

Jason

depends on the class of functions you want to consider:
a uniformly convex function on a nonempty convex set has exactly one minimizer whatever the dimension of the space might be. but if you have a problem with some given properties and now append a new variable say $x_{(n+1)}$ and simply add the term $\sin(x_{(n+1)})^2$ to the objective function, you get countably many copies of the original stationary points for the new problem (with component $k\pi$ k in the integers appended in the $(n+1)$ -th component) hence your question makes little sense in this generality

hth
peter
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