Subject: Optimal Interpolation ---HELP
Posted by k0c7289 on Tue, 14 Jun 1994 20:25:47 GMT
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Hello,

Help!!!

I am looking for the subroutine of the optimal interpolation in time and space
which produces regular gridded data from the irrrgulary sampled data in
space and time. I am working with satellite sea surface
height track data.

Please send me a mail(cho@linkji.tamu.edu)
if you have information.

Thanks

K.CHO
TAMU

Subject: Re: Optimal interpolation
Posted by the_cacc on Thu, 22 Aug 2002 00:33:52 GMT
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"Luis" <pgodino@eucmos.sim.ucm.es> wrote in message
news:<ak02d9bdq1@crispin.sim.ucm.es>...
> Hi,
>
> does somebody know abouts an optimal interpolation subrroutine. I am trying
> to compare some different interpolation techniques and this is the only one
> than I don't have programmed.
>
> thank you!
>
> ----------
> Luis Prieto Godino
> Dpto. Fï¿½sica de la Tierra II.
> U.C.M. Spain
> ----------

There's this great resource called The Internet that you may have
heard of? Try it, you'll like it!!!

Subject: Re: Optimal interpolation
Posted by David Fanning on Thu, 22 Aug 2002 02:23:48 GMT
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trouble (the_cacc@hotmail.com) writes:

> There's this great resource called The Internet that you may have
> heard of? Try it, you'll like it!!!

I think he was asking for IDL code. This would appear
to be the appropriate place to ask the question, even
after an exhaustive search of the Web. At least I
know it is where I would have asked the question.

Cheers,

David
--
David W. Fanning, Ph.D.
Fanning Software Consulting, Inc.
Phone: 970-221-0438, E-mail: david@dfanning.com
Coyote's Guide to IDL Programming: http://www.dfanning.com/
Toll-Free IDL Book Orders: 1-888-461-0155

Subject: Re: Optimal interpolation
Posted by Luis on Thu, 22 Aug 2002 08:35:58 GMT
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> There's this great resource called The Internet that you may have
> heard of? Try it, you'll like it!!!

I have been searching on the web and I don't have found a complete IDL code for this technique. So I heve decided to post this question here. Any help will be welcome.

Subject: Re: Optimal interpolation
Posted by Robert Stockwell on Thu, 22 Aug 2002 15:49:18 GMT
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Luis wrote:
> Hi,
>
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> to compare some different interpolation techniques and this is the only one
> than I don't have programmed.
>

> thank you!
>
> ---
> Luis Prieto Godino
> Dpto. Fï¿½sica de la Tierra II.
> U.C.M. Spain
> ---
>
>

I've got some Loess fitting routines for 3D interpolation
of a two component vector field. It uses SVD to solve
the 3D second order polynomial fitting. These fitting parameters
are then used to interpolate the data. The Loess part is
a local fitting routine that weights the data based on
its distance from the required point. That weighting could
easily be modified to be based on some error measurement and
therefore become an optimal interpolation routine.
It also returns an estimate of the error of the value of
the interpolated point.

Does this sound like it would be useful?

It would take me a bit of work to bang it into a generalized
form. Also, my code for selecting the "near points" is a bit outdated
as it is based on 2 one dimensional histogram with return_index. That
part should be rewritten.

Cheers,
bob

Subject: Re: Optimal interpolation
Posted by jacobian on Thu, 22 Aug 2002 19:07:03 GMT
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oh well.. i think that really depends on your data

i analyze MRI data, so I have to use sinc and windowed sinc
interpolation (which is NOT implemented in IDL), so i have to spawn
several times external programs for that purpose. After trying to
make some dlm's it just took too much time to glue them to IDL...
and eventually did not work.

I hope the next version will simplify DLM's a little bit.. :/
Or at least the Watsyn product will offer some decent registration
and interpolation algorithms. Anyone tried it?

cheers

Giorgos
Department of Radiology
Vrije Universiteit Medical Center
Amsterdam
The Netherlands

David Fanning <david@dfanning.com> wrote in message
news:<MPG.17cdf92226117b93989971@news.frii.com>...
> trouble (the_cacc@hotmail.com) writes:
>
>> There's this great resource called The Internet that you may have
>> heard of? Try it, you'll like it!!!
>
> I think he was asking for IDL code. This would appear
> to be the appropriate place to ask the question, even
> *after* an exhaustive search of the Web. At least I
> know it is where I would have asked the question.
>
> Cheers,
>
> David

Subject: Re: Optimal interpolation
Posted by Paul Van Delst[1] on Thu, 22 Aug 2002 19:46:37 GMT
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GB Karas wrote:
>
> oh well.. i think that really depends on your data
>
> i analyze MRI data, so I have to use sinc and windowed sinc
> interpolation

OT, but...

What is sinc (and windowed sinc) interpolation?

paulv

--
Paul van Delst
CIMSS @ NOAA/NCEP/EMC Beer is good.
Ph: (301)763-8000 x7274 My wife.
Fax:(301)763-8545

Subject: Re: Optimal interpolation
Posted by jacobian on Wed, 28 Aug 2002 16:25:14 GMT
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sinc interpolation relies on the following interpolating kernel:

sinc(x)=sin(x)/x

Paul van Delst <paul.vandelst@noaa.gov> wrote in message
news:<3D653F9D.223EDD66@noaa.gov>...
> GB Karas wrote:
>>
>> oh well.. i think that really depends on your data
>>
>> i analyze MRI data, so I have to use sinc and windowed sinc
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> OT, but...
>
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>
> paulv