Subject: Re: inverse gradient
Posted by Jeremy Bailin on Fri, 28 Nov 2008 13:27:46 GMT
View Forum Message <> Reply to Message

On Nov 28, 4:31 am, erano <eran.o...@gmail.com> wrote:
> On Nov 27, 5:24 pm, Jeremy Bailin <astroco...@gmail.com> wrote:
>
>
>
>> On Nov 27, 3:27 am, erano <eran.o...@gmail.com> wrote:
>
>>>> "inverse" meaning what for a vector-field?
>
>>>> Paolo
>
>>> "inverse" is the opposite operation for gradient.
>>> The inputs are 2D gradient images (dX and dY), where high values are
>>> large changes in the "inverse gradient" image, and zeros are stable
>>> (no changes) in the "inverse gradient".
>
>>> Eran
>
>> I would never use this in production code, but here's a hack that will
>> give you something to look at:
>
>> scalarfield = total(dX, /cumulative, 1) + total(dY, /cumulative, 2)
>
>> The real solution is to replace those totals with actual integrals.
>
>> -Jeremy.
>
> Thanks,
>
> It's the simplest way. it's basicly works but with errors.
> I found few articlies about "inverse gradient" on the web, and the
> problem is very complex and the simple MATLAB function (from matlab
> exchange) is expensive (memory).
> The main problem is to solve A*F=V where A is M*N matrix, V is vector
> and we look for F.
> I used LA_LEAST_SQUARES (with all possible methods) for solve this
> but it is slow and have memory problem. please note that most of A
> matrix are zeros...
>
> Any ideas?

Oddly enough, that's the second time sparse arrays have come up in one
week!

You want LINBCG, which takes as input a sparse matrix created using SPRSIN. The help pages on them are pretty decent - give them a read.

-Jeremy.
