Subject: Re: inverse gradient
Posted by pgrigis on Fri, 28 Nov 2008 16:10:30 GMT
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erano 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.

While that is true in general, the gradient operatiom (which is a
linear
and therefore can be represented as a matrix operation) is a matrix
that
consist only of diagonal and one-row above diagonal elements.

Therefore, there is no need to solve the full matrix equation, but one
can
use simpler methods (i.e. in IDL trisol).

Paolo

> 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?
