Subject: Re: not-quite meidan filter
Posted by Gray on Thu, 30 Sep 2010 20:29:18 GMT
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On Sep 30, 3:38 pm, JJ <j...@cornell.edu> wrote:
> I would like to do something that is similar to, but not quite the
> same as, a median filter to a 2D array. Instead of choosing the
> median value in a box surrounding each pixel, I would like to chose
> the value in that box that occurs most frequently.
>
> For example, if I had
>
> 1 1 1 1 1
> 1 1 1 1 1
> 2 2 2 2 2
> 2 2 3 3 3
> 3 3 3 3 3
>
> The median would be 2, but I would want the value 1 (it occurs 10
> times, which is more than the 8 instances of the value 3 or the 7
> instances of the value 2).
>
> Can anyone think of a clever way to do this that would be fast in IDL
> (ie, no looping through the pixels)? I need it to work for box sizes
> up to around 21. Ties may be broken arbitrarily.
>
> Is there already a name for this concept?
>
> Thanks.
>
> -Jonathan

So you're using a "mode" filter. Try max(histogram(pixels)). You should be careful to choose your binsize appropriately if you have non-integer data, however; or, alternatively you can use my statistical mode which finds the mode of a continuous distribution by maximizing the kernel density estimation. If you'd like the code for that, let me know.