Subject: Re: not-quite meidan filter
Posted by JJ on Thu, 30 Sep 2010 21:06:01 GMT
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>
> 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.

I think I see what you're suggesting, but unless I'm missing something, it seems that I would still have to loop over all the pixels in my image - which is exactly what I don't want to do. It's good to know the name "mode" though.

I have worked up a solution which will work as long as I have a limited number of possible values - my test case is only 53 distinct values, which is OK. I create a 3D array with a slice for each distinct value, where value of each slice is the coverage (0 or 1) for that particular value. I then convol each slice with a simple box kernel filled with 1's, which gives me number of instances of that value in the box. Then I do a max (dim = 3) on the cube and get the "max_subscripts", which I can then easily convert to the disticnt value that I want.

This method is reasonably fast (especially compared to how long a loop would take), but seems a little clunky and might cause trouble with a lot more values. Come to think of it though, I don't need the whole cube - I could just process one value at a time and just keep the maximum so far.

Any better solutions appreciated.

Thanks.

-Jonathan