Subject: Median filter the hard way
Posted by Peter Payzant on Fri, 17 Oct 2003 00:15:56 GMT

Hello, all-

This is my first posting to the group. I'm a relative novice at IDL (though
not at programming), and I'm hoping that someone may be able to help me with
a problem that a colleague is having.

He is applying a median filter to a 2-dimensional image. In general, he
wants to build a new image, where each pixel is the median value of the 3 x
3 array centred on the corresponding pixel in the original image.
Unfortunately, the image is corrupted by missing data, which are represented
by NaN. If there less than 7 good values in the 3 x 3 array, he discards
the original pixel.

His code is something like this:

```
for each row in the image
   for each pixel in the row
      count the finite neighbours of the pixel
      if the count is 7 or greater then
        new_pixel = median value
     else
        new_pixel =  NaN
   next pixel
next row
```

Obviously, the nested loops are the source of the problem. Is there any
other way to accomplish this, in a more IDL-esque way?

Thanks

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