
Subject: Re: "Max()" filter?

Posted by [Dick Jackson](#) on Thu, 07 Mar 2002 08:45:15 GMT

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"Dick Jackson" <dick@d-jackson.com> wrote in message
news:Neth8.6463\$Qq1.33877@shaw-ty2...

> I'd like a filter that uses the Max() function, so that this array:

>

> 1 4 2 4 3

> 3 5 2 1 4

> 5 7 4 3 1

> 3 5 1 1 2

> 3 1 2 3 1

>

> filtered with width 3 gives:

>

> 5 5 5 4 4

> 7 7 7 4 4

> 7 7 7 4 4

> 7 7 7 4 3

> 5 5 5 3 3

>

> (I think! :-)

Sorry for answering my own posting, but something at this late hour reminded me that this sounds like a Dilate kind of thing. (maybe my pupils are dilating! :-) Sure enough, it's just the Grayscale Dilate operation. Have to be careful around the edges, padding with a ring of zeros, removing it afterward.

If you're curious, it's all described in online help for Dilate, but here's how it works (sorry for the terse code):

```
IDL> z0=byte(10*randomu(seed,5,5))
```

```
IDL> print,z0
```

```
0 3 6 7 3
```

```
4 1 0 4 5
```

```
3 3 4 5 0
```

```
6 3 7 5 2
```

```
5 1 8 0 9
```

```
IDL> z00=bytarr(7,7) ; make array padded with ring of zeros
```

```
IDL> z00[1,1]=z0
```

```
IDL> ; now dilate with 3x3 kernel and strip off ring
```

```
IDL> print,(dilate(z00,Replicate(1B,3,3),1,1,/gray))[1:5,1:5]
```

```
4 6 7 7 7
```

```
4 6 7 7 7
```

6 7 7 7 5
6 8 8 9 9
6 8 8 9 9

I imagine that using Erode will do the converse, what I'd call "Min()" filtering.

Thanks for reading!

Cheers,

--

-Dick

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