Subject: Re: Otsu Threshold for Bimodal Data
Posted by David Fanning on Sat, 24 Nov 2012 17:20:47 GMT

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David Fanning writes:

> The OTSU_THRESHOLD program Gianguido mentions above makes
> a number of undocumented assumptions that can cause problems
> in the real-world use of the program. In my first attempt
> at implementing this algorithm I inadvertently copied all
> those dangerous assumptions into my own cgOtsu_Threshold
> program.
>
> In particular, this Otsu_Threshold program assumes you
> are working with byte type images and that your binsize
> is 1. It returns erroneous thresholds if you are working with
> real data outside the range 0 to 255 or using bin sizes
> other than 1.
>
> Since I work with both these conditions often in effect,
> I needed a more robust algorithm. Today I found a great
> web page that allowed me to rebuild the algorithm from
> the ground floor up.

The new algorithm turned out to be not quite as robust
as I expected it to be. But, good news, this turned out
to be due to a faulty assumption on my part and not to
a failure of the algorithm. In particular, the program
was having problems dealing with integer data.

My fault entirely. I assumed an equation I was using with
the threshold values was converting the threshold values
to floats. It was not. Once this problem was solved, the
algorithm is again acting like a champ!

  http://www.idlcoyote.com/programs/cgotsu_threshold.pro

Cheers,

David
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Coyote's Guide to IDL Programming: http://www.dfanning.com/
Sepore ma de ni thue. ("Perhaps thou speakest truth.")