

Re: Manipulate Histogram to get specified mean, stddev

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Having re-read the original post, I rather think you may be right on that. Thanks for point that out.

Piotr

Martin Leese wrote:

> *Piotr Stanczyk wrote:*

>

>> *You will find quite a good treatment of this in the book by Gonzalez and Woods, Digital Image Processing.*

>>

>> *I'm going by memory on this, but this can be viewed as a histogram matching problem. So, this is usually explained in 2 steps.*

>>

>>

>> *Let $T(x)$ be the cumulative probability distribution function of the input image. Get this by summing up the pdf, \sim histogram, to x*

>>

>> *-- x*

>> *\ hist(x) = T(x)*

>> /

>> *-- 0*

>>

>> *Applying just $T(x)$ gets you just the histogram equalisation process, from here you can apply the mapping that will give you the characteristics you require ...*

>>

>> *Let $G(y)$ be the cumulative probability distribution function of the output image. Since you have the pdf given to you via the mean and stddev, you can construct a Gaussian pdf with these values*

>>

>> *Then the transformation you want is:*

>>

>> *inv{G} (T)*

>

>

sci.image.processing: Re: Manipulate Histogram to get specified mean, stddev

- > *This will not only change the mean and stddev, but*
- > *will also force the shape of the histogram to be*
- > *Gaussian. My guess is that this is not what the*
- > *original poster wanted.*
- >
- > *Jon Campbell's post contains a formula which*
- > *changes the mean and stddev, and also preserves*
- > *the shape of the histogram. Please ignore the*
- > *formula in my previous post to this thread as it*
- > *is wrong.*
- >
- > *The original poster asked for a look-up table. To*
- > *create this, simply apply Jon's formula to values*
- > *from 0 to 255 and store the result.*
- >