Subject: Re: RMS error
Posted by julio on Thu, 13 May 2004 13:22:57 GMT

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Hello all...

I'd like to thank you for the discussion and the clues! However, I'd
like to know a way to extract from the image the coordinates to be put
in the RMS equation.
Thanks...
Julio

James Kuyper <kuyper@saicmodis.com> wrote in message
news:<40A23C7B.3070003@saicmodis.com>...
> Craig Markwardt wrote:
>> David Fanning <david@dfanning.com> writes:
>>
>>
>>> Julio writes:
>>>
>>>
>>>> I'd like to calculate Root Mean Square error using a base image and a
>>>> secondary image. How can I do that? Clues are welcome!
>>>
>>> rms_error = Sqrt(Total((img_1 - img2)^2)/N_Elements(img_1))
>>
>>
>> Hey David, I'll pile on too. The problem I see with the above
>> expression is that there could be an offset between the two images,
>> which you are including in your TOTAL expression, and hence biasing
>> the rms value. How about the following instead?
>
> The Root Mean Square difference between two images is defined as the
> square ROOT of the MEAN of the SQUAREd differences between the images.
> If there's an offset between the two images, that offset is supposed to
> be squared, and is supposed to contribute to the mean, and therefore to
> an increase in the RMS error.
>
>>   rms_error = stddev(img_1 - img2)
>
> That's a different statistic, also useful, but it's not the RMS error.
>
> Note: if there's an offset difference, there might also be a scaling
> difference. Then the most appropriate statistic to use gets even more
> complicated.