Subject: Re: programmatically guess image dimensions?
Posted by Michael Wallace on Thu, 11 Aug 2005 17:44:18 GMT
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Here's a couple ideas that might get you going. First, you might want to try looking at the prime factorizations of the number of elements. This is essentially what you did in your 9 x 4 case. 36 breaks down into 2 x 2 x 3 x 3... which then can be recombined into 3 x 3 x 4 or 2 x 3 x 6 or 2 x 2 x 9. If I understand you correctly, you'd want the most cube shaped, or put another way, the one with the least variance in edge size. I want to say that if you just sum up the edge lengths, the smallest total will be the most cube-like. I think there's some geometry formula about that, but I can't remember it off the top of my head.

If your prime factorization doesn't yield very good results, then add one to your number of elements and repeat. You'll need some rule to indicate whether the cube you come up with is okay or if you should try again with the next number in the sequence. For example, which is better if you have 14 elements? Is 1 x 2 x 7 with no empty spaces or is it 1 x 3 x 5 with one empty space or is it 2 x 2 x 4 with two empty spaces? Whatever the case, you'll need a rule to determine whether to stop or to try again.

HTH,
Mike

Jeff N. wrote:
> Hi everyone,
>
> I have managed to run across several situations where I've wanted to
> take tabular data and make a "pseudo-image" cube out of the data so
> that I could easily use some of ENVI's statisical routines. What I want
> to do is write code that, given the number of records in the tabular
> data, comes up with the best dimensions for the pseudo-image cube. So,
> for example, if i have 9 records with 4 columns of tabular data, i'd
> like my code to tell me that this should end up being a 3x3x4 cube. If
> I have 13 records, I'd like it to tell me to arrange those in a 3x5
> grid, with 2 "empty" pixels containing 0's. So my question is, does
> anyone know a good way to come up with the largest rectangle I can make
> to use as my image dimensions, with the fewest number of empty pixels?
> I won't have a huge number of records, so I don't *think* I need to
> make computational efficiency top priority. Anybody have any ideas to
> get me started?
>
> Thanks!
> Jeff
>