Subject: Re: matrix multiplication of 2 three-dimensional arrays
Posted by Juggernaut on Wed, 20 Aug 2008 16:08:06 GMT
View Forum Message <> Reply to Message

On Aug 20, 10:51 am, pgri...@gmail.com wrote:
> thomas.jagdhuber wrote:
>> On 20 Aug., 16:34, pgri...@gmail.com wrote:
>>> Bennett wrote:
>>>> On Aug 20, 8:22 am, "thomas.jagdhuber" <thomas.jagdhu...@gmail.com>
>>>> wrote:
>>>> > Dear experts,
>
>>>> > I would like to matrix multiply two matrices with dimensions
>>>> > [3,3,1500]. means: 1500 times a matrix multiplication of 2 matrices
>>>> > with dimension [3,3]
>>>> > I could do this with a for loop over the dimension [1500] but i
>>>> > suppose this is not very elegant. Is there any other way to do this
>>>> > time-efficient.
>
>>>> > Best regards,
>
>>>> > thomas
>
>>>> Have you searched help on product() and its dimensional keyword?
>>>> This could be useful for you.
>
>>> It is not clear to me how "product" can be used for solving
>>> matrix multiplications.
>
>>> To the original poster:
>
>>> 1) your problem is so small that I don't see any need for
>>> optimization.
>
>>> 2) however, if you really want to optimize in case that the number of
>>> matrices N should increase in the future, use loops over the 3x3
>>> matrix
>>> arrays and columns instead and treat the matrix elements as N-element
>>> vectors. This way, more work is done per loop for large values of N.
>
>>> Ciao,
>>> Paolo
>
>> I think i will calculate each matrix element alone by the linear
>> combination and then just use the whole vector of 1500 Values for
>> calculating each linear combination. this should be reasonable as long
>> as the 3x3-dimension is valid and not growing.
>

> Yes, that is exactly what I was suggesting. The code will look ugly
> though...;-)
>
> Ciao,
> Paol

Way I read it was that you had a matrix of 3x3x1500 and wanted to multiply them together....not sure what it means to say 1500 times 2 matrices of 3x3 dimension unless you just mean 1500*[A]*[B] on an element by element basis where A = [[a,b,c],[d,e,f],[g,h,i]] and B = [[a2,b2,c2],[d2,e2,f2],[g2,h2,i2]]? That's how that reads to me... I don't think I quite understand what it is that you're trying to do so therein lies the confusion.
