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Subject: Re: Principal Componets Analysis  
Posted by [rjp23](#) on Tue, 20 Jun 2017 11:39:19 GMT  
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This is a bit of an extreme bump but I've just stumbled upon this and need to do something similar.

The disclaimer here ([http://www.idlcoyote.com/code\\_tips/pca.html](http://www.idlcoyote.com/code_tips/pca.html)) bothers me a bit: [Editor Note: After writing an article on EOF Analysis, which is identical to Principal Component Analysis, I have a feeling this section of the article might be slightly misleading. Let's just say, I wouldn't do it this way if I were doing the analysis again now.]

I don't know if David's still around but could someone elaborate a bit more on that? What's the issue with the article that'd be done differently?

Thanks

On Tuesday, September 4, 2007 at 1:33:37 AM UTC+1, David Fanning wrote:

> David Fanning writes:

>

>> Well, I'm ashamed to say, I had read part's of Mort's book  
>> earlier in the week and found I needed, well, more remedial  
>> help. Quite frankly, I didn't understand a word of it. :-(

>>

>> The Lindsay Smith tutorial, on the other hand, was crystal  
>> clear (<http://tinyurl.com/3aaeb6>). So much so that I came  
>> back to my office and wrote up the example in IDL, just  
>> to see if I could follow it.

>

> Well, I'm back, this time with a spelling of "principal"  
> that might even make this discussion of Principal Components  
> Analysis (PCA) available to people who can spell correctly  
> on Google searches. (And I have bookmarked the difference  
> between "principle" as a fundamental truth or law, and  
> "principal" as the first in rank, in my dictionary. How  
> you get to be my age without knowing this is beyond me.)

>

> I've been pretty much obsessed with PCA for the past couple  
> of weeks. For one thing, I felt badly about telling Mort  
> I couldn't understand a word of his excellent book. (It  
> does grow on you when you finally find yourself up to  
> speed again on some of the mathematical notations.)

>

> Anyhow, I've wanted to understand this. Probably for the  
> same reason I've been studying Spanish so diligently  
> lately: it just seems like it might come in handy some  
> day. Does anyone know if they use PCA in Costa Rica?

>

> PCA \*is\* fairly straightforward. At least after you  
> understand it, it is. Getting there is something else.  
> I suspect there are more of you out there like me who  
> would appreciate a--shall we say--less mathematical  
> approach to the subject.  
>  
> I found MUCH became clear after reading the above  
> mentioned Lindsay Smith tutorial:  
>  
> <http://tinyurl.com/3aaeb6>  
>  
> But there were still a few unresolved problems for me.  
> One of these was why there are two ways to do PCA in  
> IDL, and why you don't get the same answer when you use  
> them. I discovered, eventually, that you DO get the same  
> answer, but this took me a whole lot longer to figure  
> out than it probably should have.  
>  
> I also wanted to understand the use of PCA for images,  
> so I looked into that a little bit, too.  
>  
> All this to say that I have written what I am calling  
> a PCA Tutorial, although that is probably a lofty title  
> for a piece of writing that is more like the blind leading  
> the blind. :-)  
>  
> I would appreciate feedback on this from those of you  
> who know a lot more about it than I do. I tried to let  
> the Smith tutorial do the heavy theoretical lifting.  
> What I wanted to know was how to do this in IDL. So that  
> is the focus here. (I did find what I think is an error  
> in the Smith tutorial, for what it is worth.)  
>  
> You can find the tutorial here:  
>  
> [http://www.dfanning.com/code\\_tips/pca.html](http://www.dfanning.com/code_tips/pca.html)  
>  
> Any and all comments welcome.  
>  
> Cheers,  
>  
> David  
>  
> --  
> David Fanning, Ph.D.  
> Fanning Software Consulting, Inc.  
> Coyote's Guide to IDL Programming: <http://www.dfanning.com/>  
> Sepore ma de ni thui. ("Perhaps thou speakest truth.")

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