

Lesson 4:
Dimensionality Reduction and PCA

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Text: What Are EigenValues & EigenVectors?

SEND FEEDBACK

What Are Eigenvalues and Eigenvectors?

The mathematics of PCA isn't really necessary for PCA to be useful. However, it can be useful to fully understand the mathematics of a technique to understand how it might be extended to new cases. For this reason, the page has a few additional references which go more into the mathematics of PCA.

If you dive into the literature surrounding PCA, you will without a doubt run into the language of eigenvalues and eigenvectors. These are just the math-y words for things you have already encountered in this lesson.

An eigenvalue is the same as the amount of variability captured by a principal component, and an eigenvector is a principal component itself. To see more on these ideas, take a look at the following three links below:

[Eigenvalue](#)

[Eigenvalue and eigenvector](#)

[A great introduction into the mathematics of principal components analysis.](#)

[An example of using PCA in python by one of my favorite data scientists.](#)

[An example of PCA from the scikit learn documentation.](#)

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