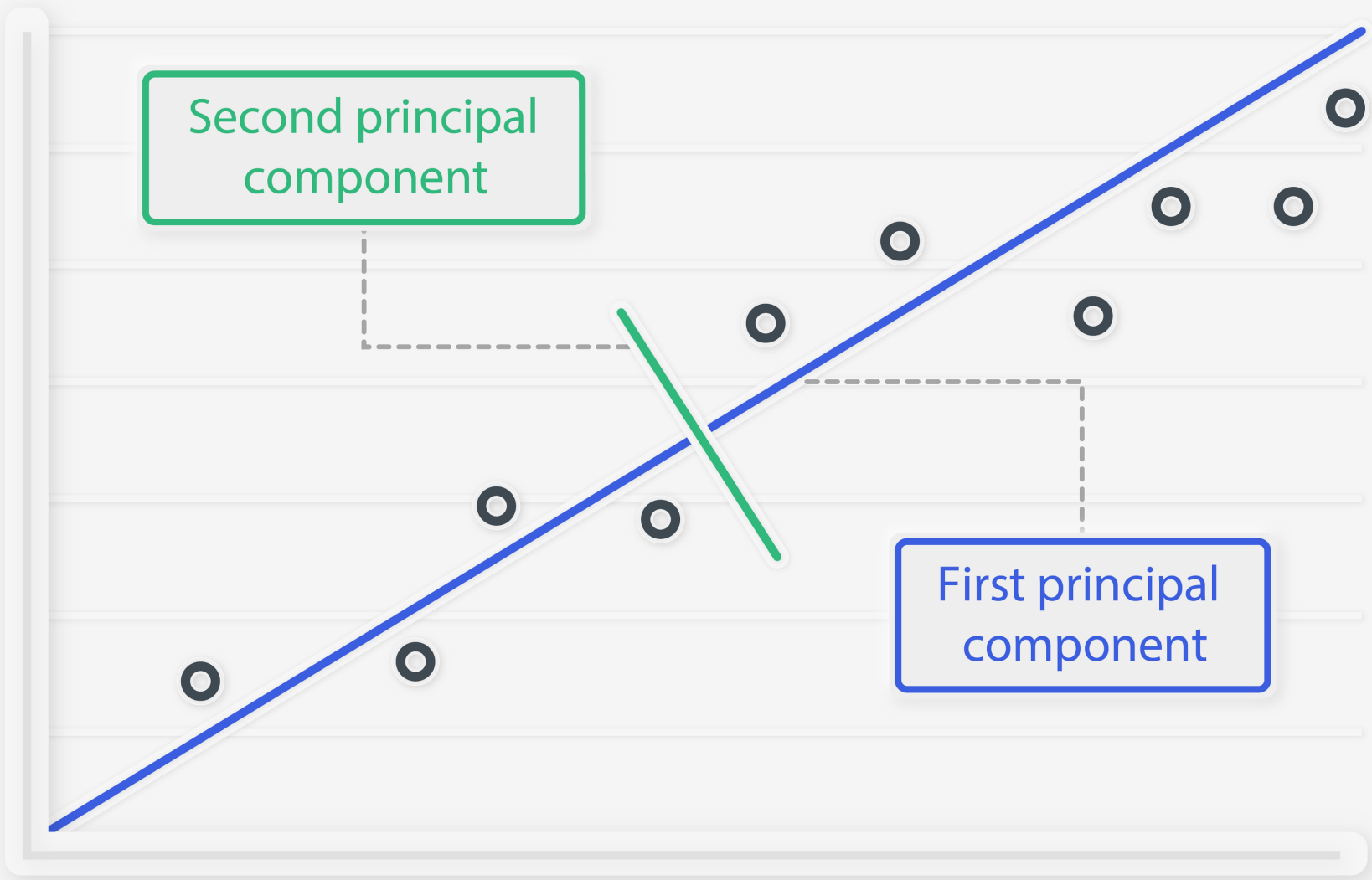
PRINCIPAL COMPONENT ANALYSIS

PCA projects the features onto the principal components.
The motivation is to reduce the features dimensionality while only losing a small amount of information.



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What is Principal Component Analysis (PCA)?

PCA is a **dimensionality-reduction** method

The **idea of PCA is simple** — reduce the number of variables of a data set, while preserving as much information as possible

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When should you use PCA?

Do you want to reduce the number of variables, but **aren't able to identify variables** to completely remove from consideration?

Do you want to **ensure your variables are independent** of one another?

Are you comfortable making your **independent variables less interpretable?**

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When should you use PCA?

If you answered **“yes” to all three questions**,
then **PCA is a good method** to use.

If you answered “no” to question 3, you
should not use PCA.

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