Principal Component Analysis (PCA)

- Principal component analysis, is **a dimensionality-reduction method** that is often used to reduce the dimensionality of large data sets,

Curse of dimensionality:

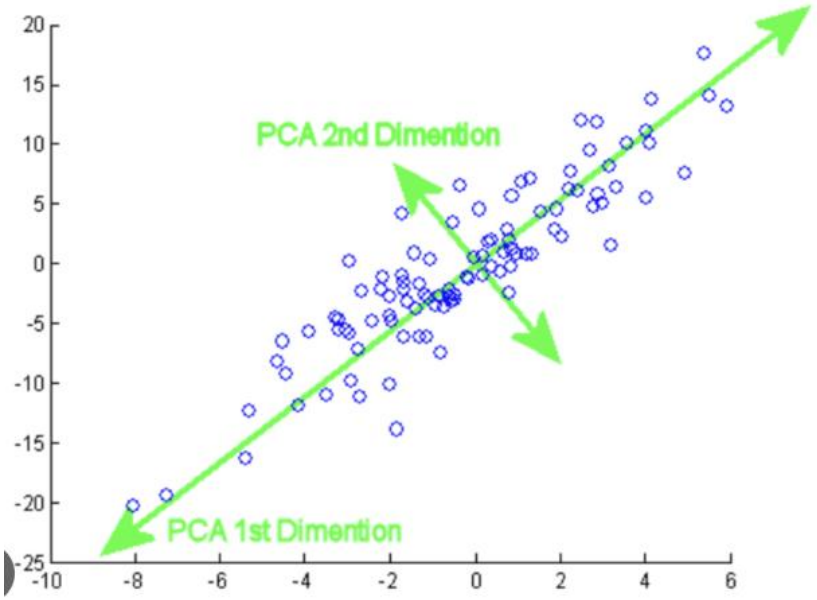
- If we increase the number of features for algorithm, then performance increases up to certain level but then it starts decreasing.

Dimensionality Reduction

- Dimensionality reduction is the method of transforming a collection of data having **large dimensions into data of smaller dimensions** while ensuring that identical information is conveyed concisely.

Pros of Dimensionality Reduction

- It helps to compress data, reducing the storage space needed.
- It cuts down on computing time.
- It also aids in the removal of redundant features.
- smaller data sets are easier to explore and visualize and make analyzing data much easier and faster for machine learning algorithms


PCA 2nd Dimention
PCA 1st Dimention
20
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