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Professor Liang

CSC 546

Hw 2

* 1. Geometric perspective - PCA finds directions of maximum variance in a dataset by projecting high-dimensional data onto a lower-dimensional subspace while retaining as much of the original variation as possible.
  2. Linear algebra perspective - PCA is a linear transformation that rotates and scales the original data into a new coordinate system, where the new axes (principal components) are linearly uncorrelated and ordered by the amount of variance they capture. The principal components are the eigenvectors of the covariance matrix of the data, and the corresponding eigenvalues represent the amount of variance explained by each component.

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