

Manifold Learning

With t-SNE

Overview

- Manifold learning used exclusively for visualization
- Allows more complex mapping and provides superior visualizations
- Can't be applied to a test set
- Rarely used for supervised learning

t-SNE specifically

- One of the most common manifold learning methods
- Finds a two-dimensional representation of the data
 - Done through a random starting point and iteration
 - Continues until all points intended to be grouped are as close as possible.
 - Neighbors are given higher precedence than that of points with great distances.

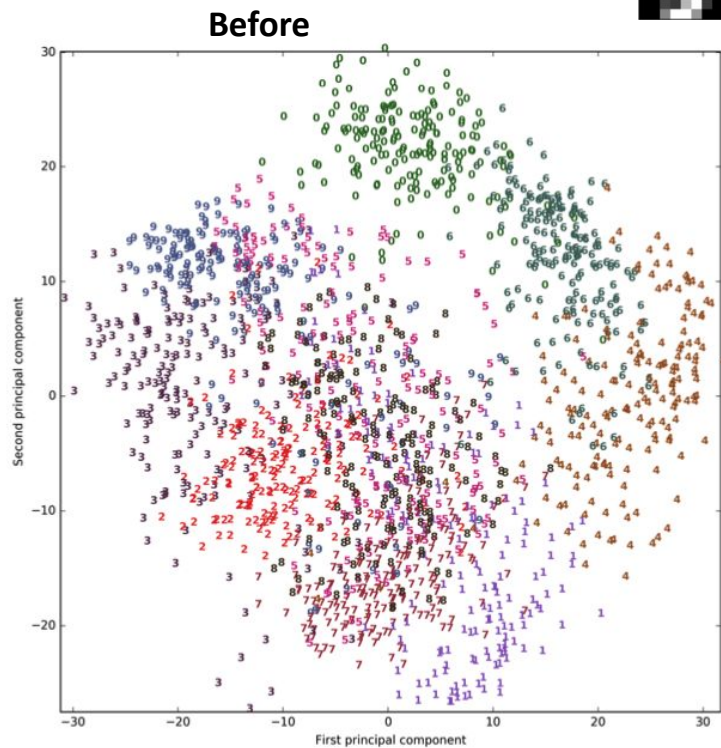
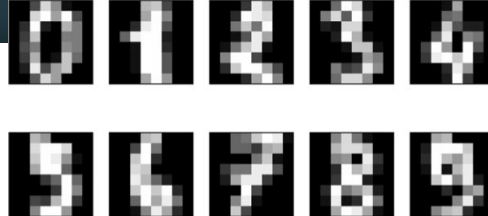


Figure 3-21. Scatter plot of the digits dataset using the first two principal components

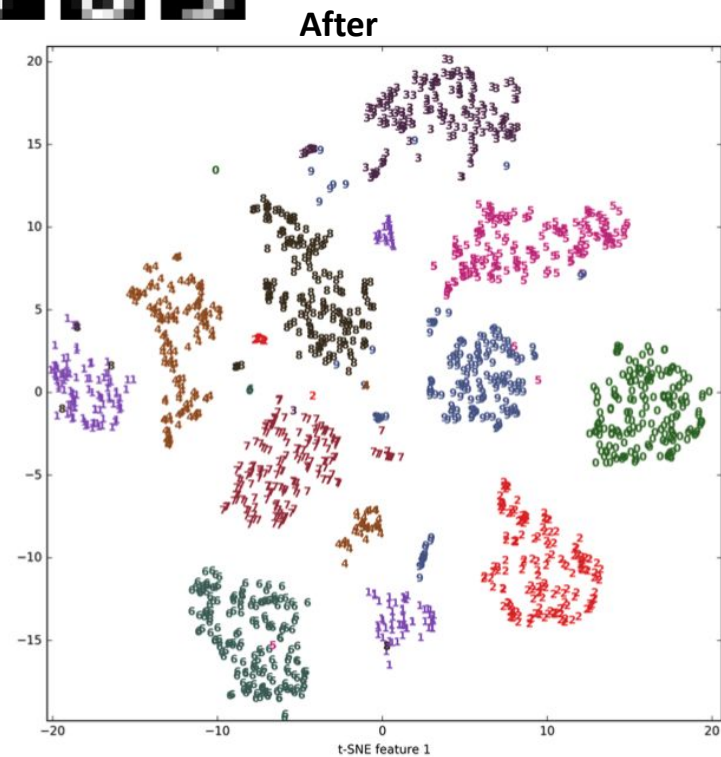


Figure 3-22. Scatter plot of the digits dataset using two components found by t-SNE