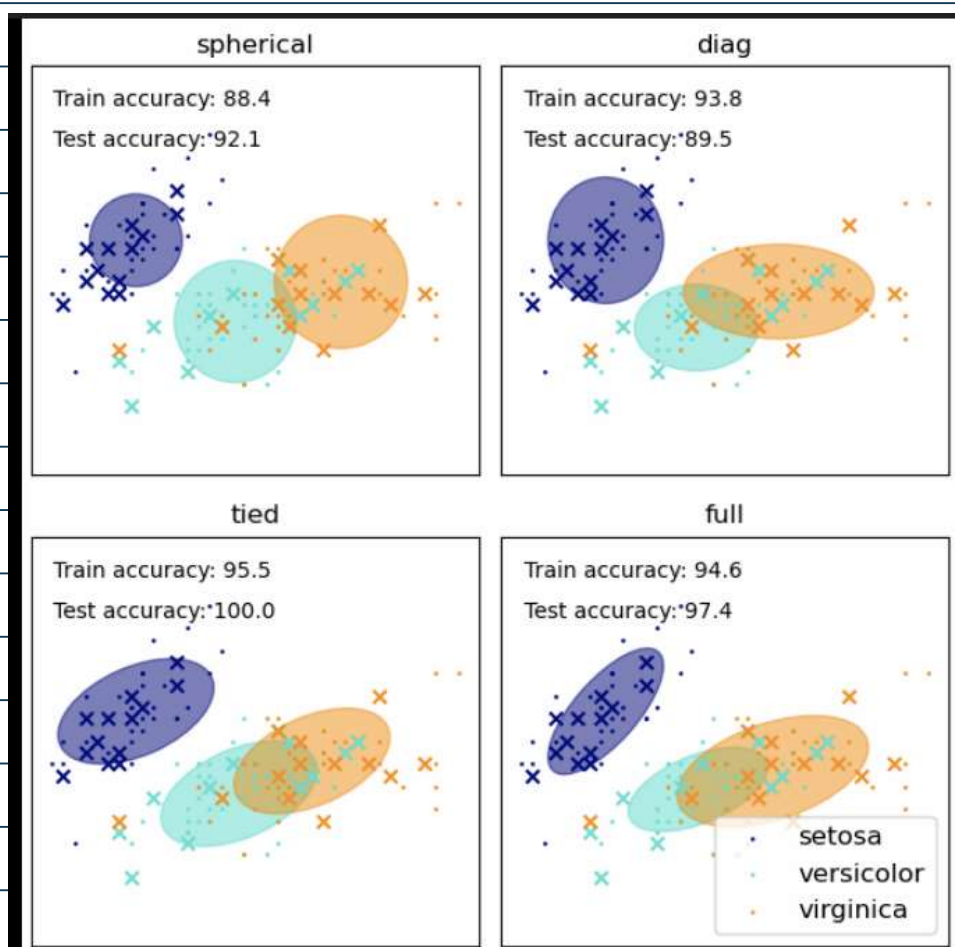# Notes

Saturday 11 May 2024   8:12 PM

A Gaussian mixture model is a probabilistic model that assumes all the data points are generated from a mixture of a finite number of Gaussian distributions with unknown parameters. One can think of mixture models as generalizing k-means clustering to incorporate information about the covariance structure of the data as well as the centers of the latent Gaussians.

> A Gaussian mixture model is **a soft clustering technique used in unsupervised learning to determine the probability that a given data point belongs to a cluster**. It's composed of several Gaussians, each identified by $k \in \{1,..., K\}$, where K is the number of clusters in a data set.

[Gaussian Mixture Models](#)