

A scatter plot illustrating the result of a linear discriminant analysis (LDA) on a two-dimensional dataset. The x-axis ranges from -2 to 2, and the y-axis ranges from -2 to 2. A solid black line represents the linear decision boundary, which separates the data into two regions. The data points are colored according to their cluster membership, with different colors representing different classes. The clusters are approximately: a large yellow cluster on the left, a small red cluster near the center, a small purple cluster near the center, a small orange cluster near the center, a small green cluster on the right, a small cyan cluster on the right, and a small dark blue cluster on the right. The linear decision boundary is positioned such that it separates the yellow cluster from the other clusters.

