

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:

- Yellow:** Two clusters of points, one in the upper-left region and one in the lower-left region.
- Red:** A single point located near the center-left.
- Purple:** Two points located near the center-left.
- Orange:** A single point located near the center-left.
- Green:** A cluster of points located in the upper-right region.
- Cyan:** A cluster of points located in the lower-right region.
- Dark Blue:** A cluster of points located in the upper-right region, to the right of the green cluster.

The decision boundary line slopes downwards from left to right, separating the yellow and purple points (generally to the left) from the green, cyan, and dark blue points (generally to the right).

