

A scatter plot showing 100 data points in a 2D space. The x-axis ranges from -2 to 2, and the y-axis ranges from -2 to 2. The data points are colored according to their cluster membership, with colors corresponding to the legend: blue, orange, green, red, purple, cyan, light green, and yellow. A solid black line, representing a linear decision boundary, runs diagonally from the top-left to the bottom-right, separating the space into two regions. The data points are distributed as follows: a cluster of blue points in the upper right; a cluster of orange points in the upper left; a cluster of green points in the center; a cluster of red points in the lower left; a cluster of purple points in the center-left; a cluster of cyan points in the center-right; a cluster of light green points in the center-right; and a cluster of yellow points in the lower left. The decision boundary line is positioned such that it separates the blue and orange clusters from the other clusters.

