

A scatter plot showing 1000 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: dark blue (Cluster 1), green (Cluster 2), yellow (Cluster 3), orange (Cluster 4), purple (Cluster 5), red (Cluster 6), cyan (Cluster 7), and light green (Cluster 8). A solid black line represents the decision boundary for the linear classifier, separating the space into two regions. The points are distributed such that Clusters 1, 2, 3, 4, 5, 6, 7, and 8 are generally separated by this line, with Cluster 1 being the most distinct and Cluster 8 being the least distinct.

