DLSR Algorithm Flowchart:
Distance Learning in Structured Representations

High-dimensional Dataset X → Phase 1: Manifold Learning (PCA, LLE, Isomap, etc.)

Low-dimensional Embedding Y

k-NN Graph Construction

Similar/Dissimilar Neighborhood Sets

Phase 2: Distance Metric Learning

Minimize Similar Distances

Maximize Dissimilar Distances

Balance Class Representation

No

Convergence? **Yes**

No

Learned Distance Metric M

Enhanced Classification