The attached Matlab codes are for recreating the results (Figs. 4 and S1) presented in manuscript “Geometry and statistics-preserving manifold embedding for nonlinear dimensionality reduction”. Demo 1 is for recreating Fig. 4A and demo 2 is for Fig. 4B. Demo 3 is for recreating Fig. S1.

Matlab codes of three algorithms are added: 1) GSE 2) Isomap and 3) LLE. The codes are tested on Windows 10 PC with Matlab R2019a. Visual studio of 2015 version is necessary to run dijkstra.mexw64.