I. Manifold Learning Seminar Bibliography

The first two papers are the original Local Linear Embedding and a follow-up paper. [1], [2] They should be presented together.

The second two papers are the original ISOMAP and a follow-up paper. [3], [4] They should be presented together as well.

The next two papers look at a less talked about algorithms, called Sammon's algorithm. One is the original and the other is a later paper. They should be presented together [5], [6] The next two papers focus on Dimensionality Estimation, which is an important but unsolved problem.

The next two papers consider the important problem of estimating dimensionality [7], [8]. They do not need to be presented together

The next two papers considered behavior on Out Of Sample patterns [9], [10]. The do not need to be presented together.

The final three papers look at Spectral Clustering, Persistence Landscapes, and Manifold Learning for Hyperspectral Image Analysis [11], [12], [13], [14]. They do not need to be presented together.

References

[1] S. T. Roweis and L. K. Saul, "Nonlinear dimensionality reduction by locally linear embedding," *Science*, vol. 290, 2000.

[2] L. K. Saul and S. T. Roweis, "Think globally, fit locally: Unsupervised learning of low dimensional manifolds," *J. Mach. Learn. Res.*, vol. 4, pp. 119–155, Dec. 2003. [Online]. Available: http://dx.doi.org/10.1162/153244304322972667

[3] J. C. L. Joshua B. Tenenbaum, Vin de Silva, "A global geometric framework for nonlinear dimensionality reduction," *Science*, vol. 290, 2000.

[4] M. Fan, X. Zhang, H. Qiao, and B. Zhang, "Efficient isometric multi-manifold learning based on the self-organizing method," *Inf. Sci.*, vol. 345, no. C, pp. 325–339, Jun. 2016. [Online]. Available: http://dx.doi.org/10.1016/j.ins.2016.01.069

[5] J. W. Sammon, "A nonlinear mapping for data structure analysis," *IEEE Transactions on Computing*, vol. 18, 1969.

[6] J. Sun, C. Fyfe, and M. Crowe, "Extending sammon mapping with bregman divergences," *Information Sciences*, vol. 187, pp. 72 – 92, 2012. [Online]. Available: http://www.sciencedirect.com/science/article/pii/S0020025511005561

[7] P. Mordohai and G. G. Medioni, "Dimensionality estimation, manifold learning and function approximation using tensor voting," *Journal of Machine Learning Research*, vol. 11, pp. 411–450, 2010. [Online]. Available: http://doi.acm.org/10.1145/1756006.1756018

[8] J. A. Costa and A. O. H. III, "Geodesic entropic graphs for dimension and entropy estimation in manifold learning," *IEEE Trans. Signal Processing*, vol. 52, no. 8, pp. 2210–2221, 2004. [Online]. Available: http://dx.doi.org/10.1109/TSP.2004.831130

[9] E. Vural and C. Guillemot, "Out-of-sample generalizations for supervised manifold learning for classification," *IEEE Trans. Image Processing*, vol. 25, no. 3, pp. 1410–1424, 2016. [Online]. Available: http://dx.doi.org/10.1109/TIP.2016.2520368

[10] Y. Bengio, J.-F. Paiement, P. Vincent, O. Delalleau, N. Le Roux, and M. Ouimet, "Out-of-sample extensions for lle, isomap, mds, eigenmaps, and spectral clustering," *Advances in neural information processing systems*, vol. 16, pp. 177–184, 2004.

[11] Y. Wang, Y. Jiang, Y. Wu, and Z. H. Zhou, "Spectral clustering on multiple manifolds," *IEEE Transactions on Neural Networks*, vol. 22, no. 7, pp. 1149–1161, July 2011.

[12] P. Bubenik, "Statistical topological data analysis using persistence landscapes," *J. Mach. Learn. Res.*, vol. 16, no. 1, pp. 77–102, Jan. 2015. [Online]. Available: http://dl.acm.org/citation.cfm?id=2789272.2789275

[13] D. Lunga, S. Prasad, M. M. Crawford, and O. Ersoy, "Manifold-learning-based feature extraction for classification of hyperspectral data: A review of advances in manifold learning," *IEEE Signal Processing Magazine*, vol. 31, no. 1, pp. 55–66, Jan 2014.

[14] L. Ma, M. M. Crawford, X. Yang, and Y. Guo, "Local-manifold-learning-based graph construction for semisupervised hyperspectral image classification," *IEEE Trans. Geoscience and Remote Sensing*, vol. 53, no. 5, pp. 2832–2844, 2015.