

Distance Geometry and Data Science

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Many problems in data science are defined on relational structures which are naturally represented as graphs. Many successful methods for achieving goals such as learning, clustering, statistical inference, visualization, however, require their input in vector form. Moreover, many of these methods are based, explicitly or implicitly, on the concept of distance between vectors. This requires tools for mapping graph vertices into vectors, in such a way as to keep graph distances approximately invariant. I shall survey some of the methodologies of distance geometry from this point of view [1, 2].

References

- [1] L. LIBERTI, C. LAVOR, N. MACULAN, A. MUCHERINO, *Euclidean distance geometry and applications*, SIAM Review **56**(1):3-69, 2014.
- [2] L. LIBERTI, C. LAVOR, *Euclidean Distance Geometry: An Introduction*, Springer, New York, 2017.