skedm: Empirical Dynamic Modeling

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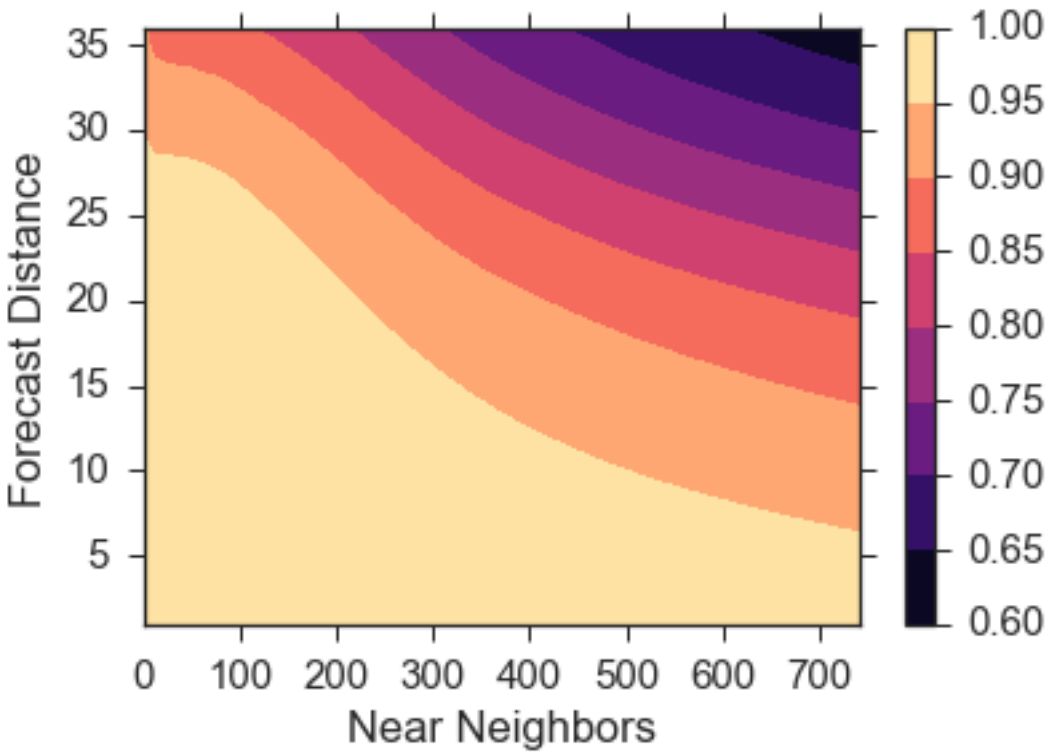
Software Repository: https://github.com/NickC1/skedm
Software Archive: http://dx.doi.org/10.6084/m9.figshare.4887398.v1

Summary

This python package implements nonlinear time series analysis techniques, also referred to as empirical dynamic modeling, based on many of the workflows and routines within TISEAN(Hegger and Schreiber 1999) and (Ye et al. 2017). The package provides a modern api, is written in pure python, and provides additional analysis routines not provided by TISEAN. skedm is capable of reconstructing state spaces from one, two, and even three-dimensional series. Additionally, it provides various methods for analyzing the evolution of nearby neighbors in the reconstructed state spaces. skedm also includes numerous one, two, and three-dimensional synthetic datasets for researchers to explore.

The code makes use of scikit-learn's (Pedregosa et al. 2011) efficient near neighbor implementation, and allows users familiar with the scikit-learn's API (Buitinck et al. 2013) to easily use skedm.



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References

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