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Editors
Journal of Computational and Graphical Statistics

Dear Professor Yuguo Chen and Professor Laura M. Sangalli,

Please consider our manuscript entitled *"Stop Lying to Me: New Visual Tools to Choose the Most Honest Nonlinear Dimension Reduction"* for publication in the *Journal of Computational and Graphical Statistics*.

Non-linear dimension reduction (NLDR) techniques, such as tSNE and UMAP, are widely used for producing low-dimensional representations of high-dimensional data. While these methods can provide concise and powerful summaries, they also have the potential to exaggerate random patterns or create misleading structures. Different NLDR methods and different choices of hyper-parameters often produce wildly varying representations from the same data, leaving analysts with difficult decisions about which, if any, of these views are accurate.

Our manuscript introduces an approach that treats NLDR outputs as models and visualizes the models with the data in the original high-dimensional space using tours (movies of linear projections). Numerical diagnostics are also generated from the fitted model. These allow analysts to have support to help them choose an appropriate NLDR representation of their data.

We believe that this work is a strong fit for *JCGS*, given the journal's focus on innovative statistical graphics, computational methodology, and tools that help analysts better understand high-dimensional data. Our approach combines statistical modeling, interactive and dynamic graphics, and numerical diagnostics, contributing to the journal's mission of advancing the use of computation and graphics in statistical practice.

Thank you for the consideration of this manuscript. We believe that it is a good fit for the Journal of Computational and Graphical Statistics.

Sincerely

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