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Dynamic dimension reduction with the tour

Numerical methods are great if you know exactly what you are looking for, but nothing beats human vision and human brainpower for uncovering the unexpected. In this tutorial you will learn some theory and some practice behind an important method for visualising high-dimensional data: the tour. The tour is a dynamic graphical method which shows a smooth sequence of data projections, allowing you to see many-dimensional data.

The tutorial will cover both theory and practice. The theory behind the tour is quite accessible, and you will be introduced to the existing research, some of the potential applications and possibilities for future work. The hands-on component will use a GGobi and new R package, `tourr`, to illustrate some of the wide variety of tour paths and visualisations. Case studies will show how the tour can be used for clustering and classification. You will gain the computational tools necessary to use the tour for data analysis, and know enough about the underlying structure to start writing your own methods.