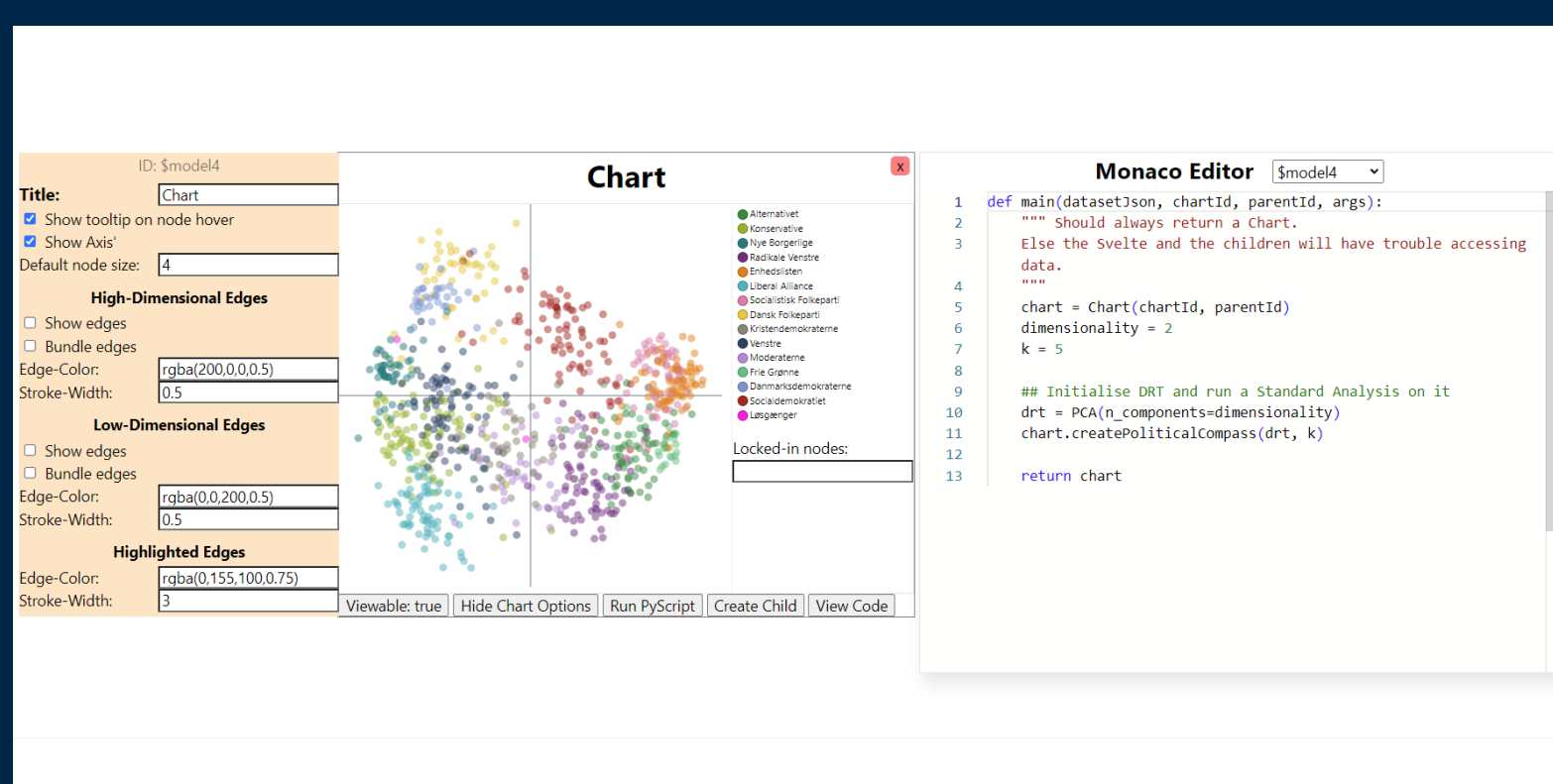


A WEB FRAMEWORK FOR EXPLAINABLE AND MALLEABLE VISUALISATION

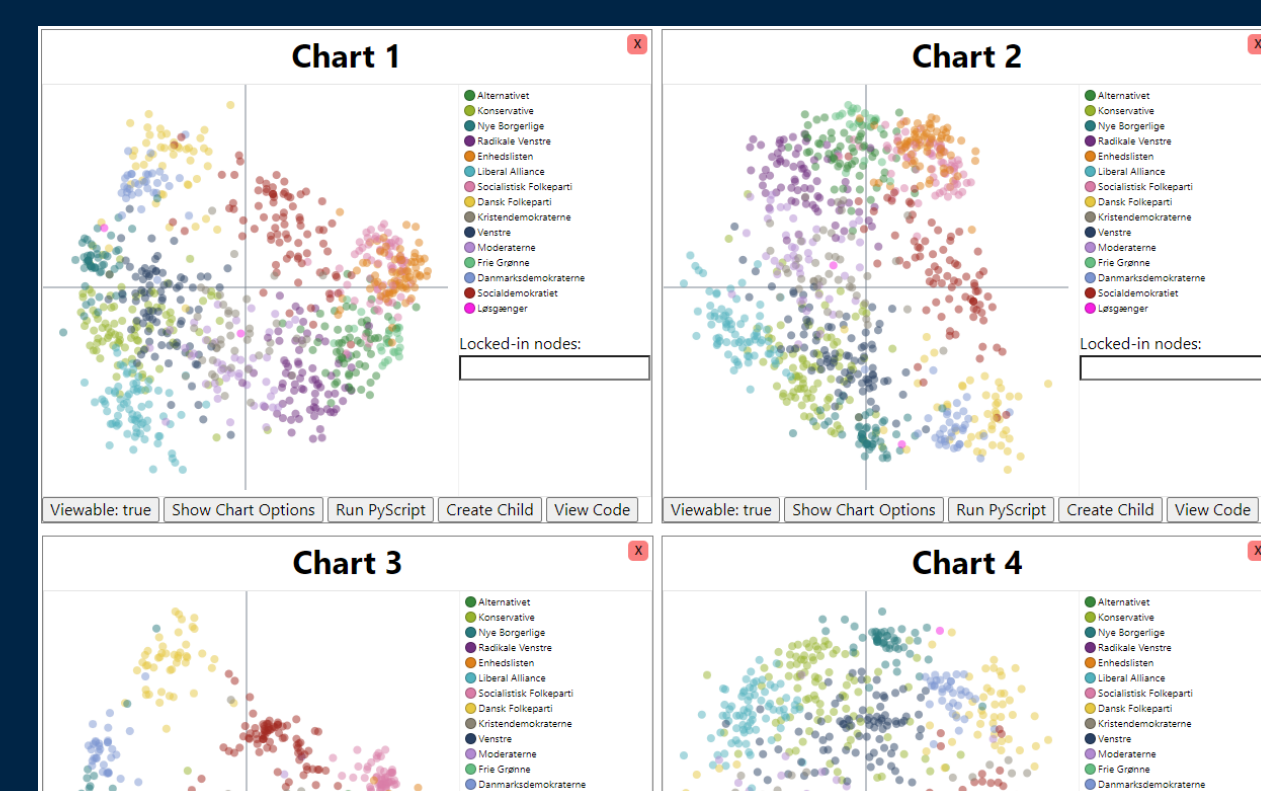
Simon Malthe Hansen, Ira Assent, Hans-Jörg Schulz
Department of Computer Science, Aarhus University

Malleable & Explainable

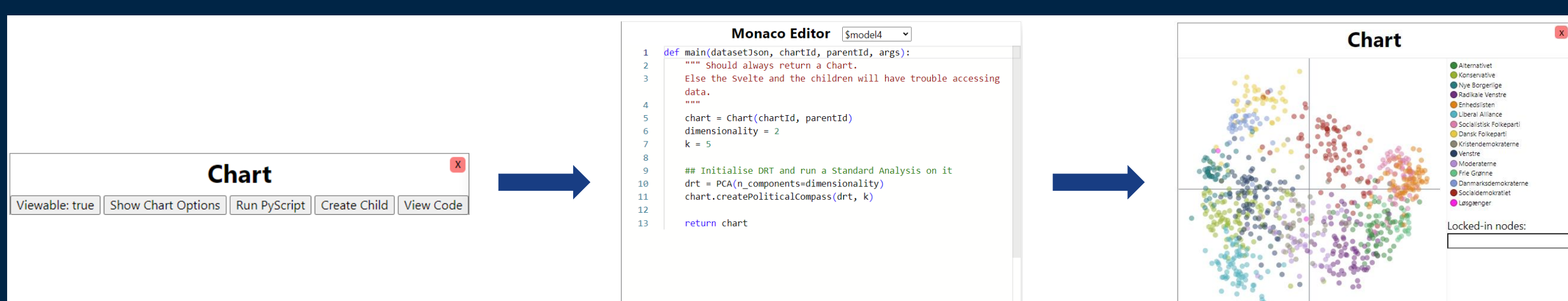
Key Features



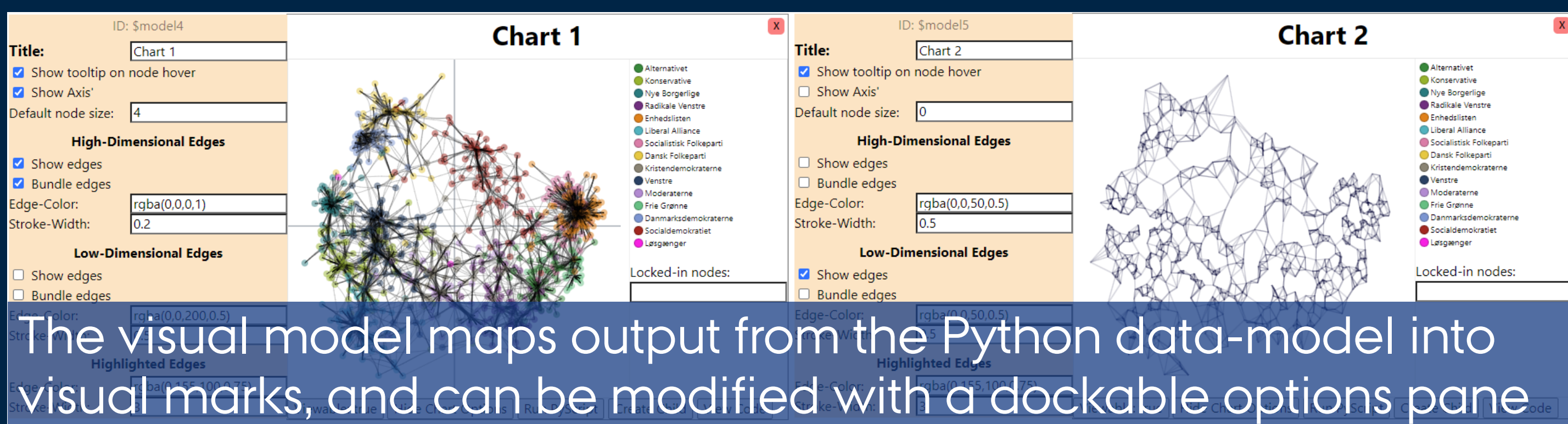
Charts hold a data model, a visual model and a view



Create your own setup with multiple, movable Charts

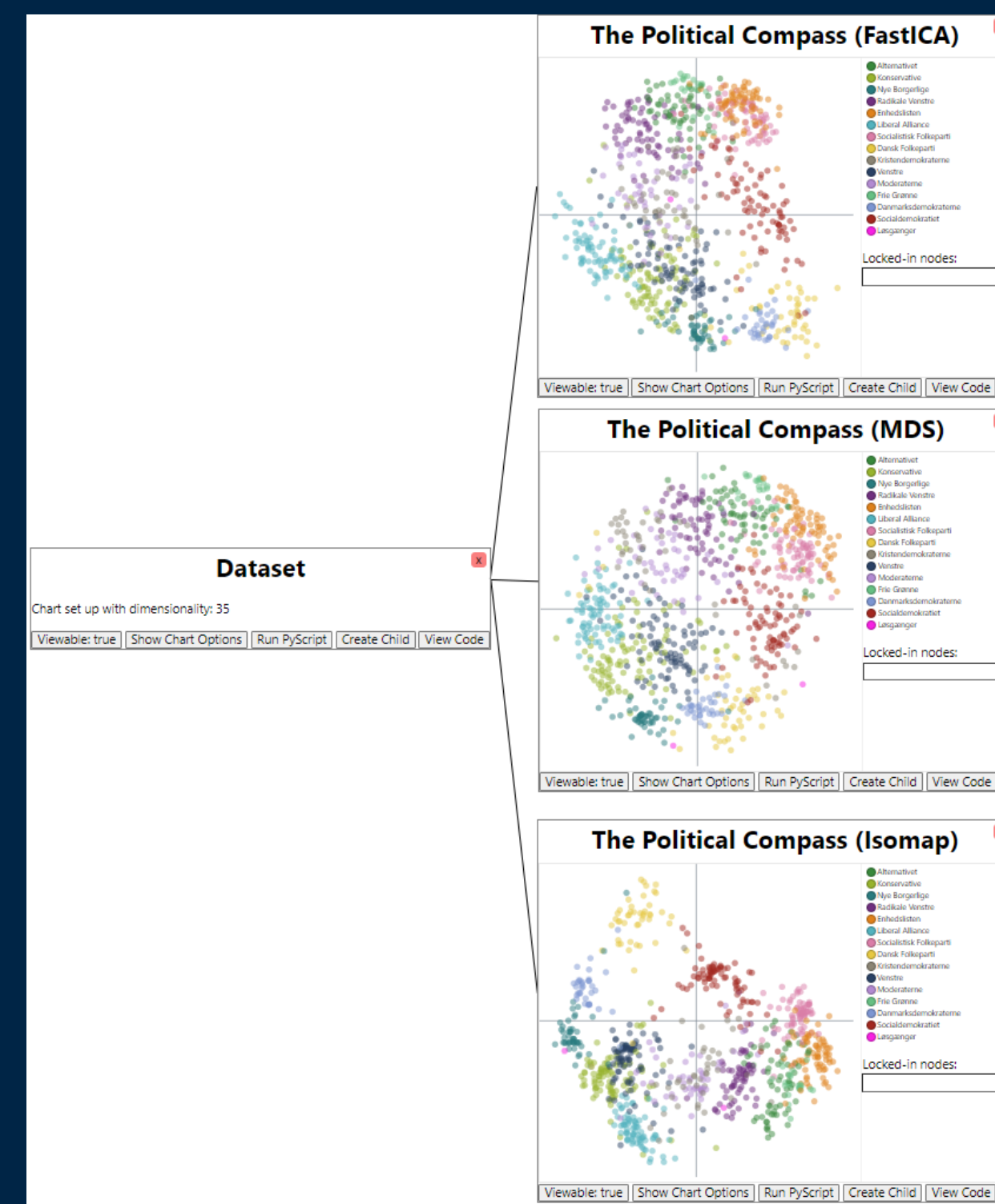


The data model consists of editable and executable Python code, for a smaller divide between pre-processing and visualisation

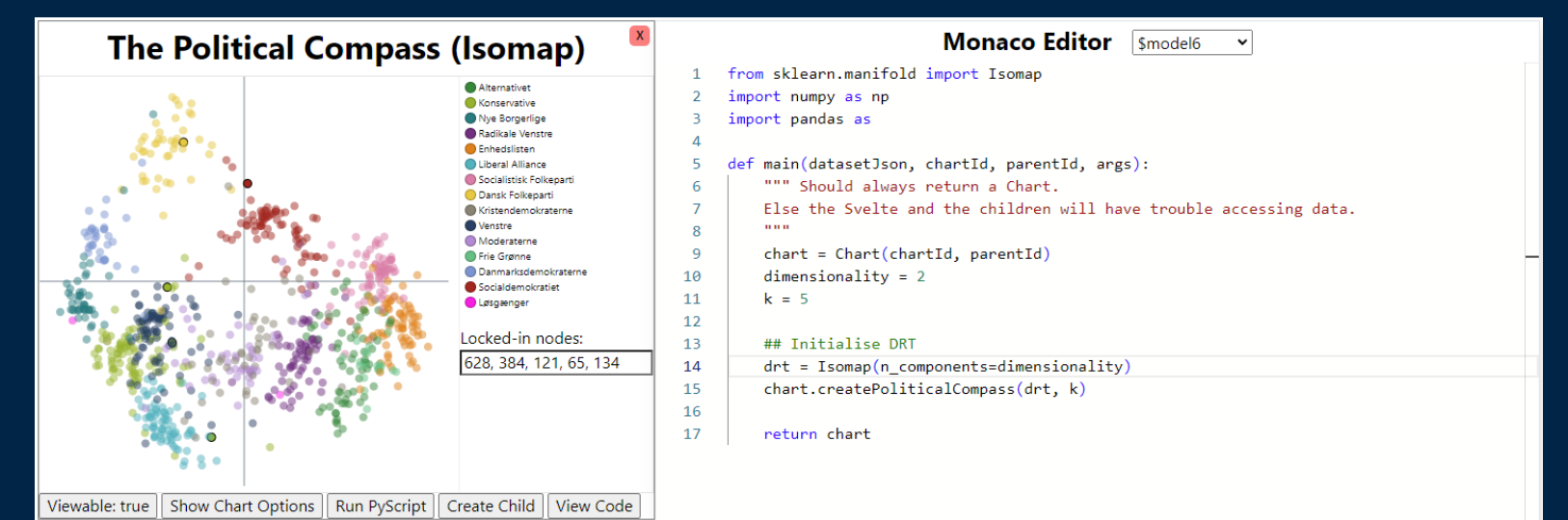


The visual model maps output from the Python data-model into visual marks, and can be modified with a dockable options pane

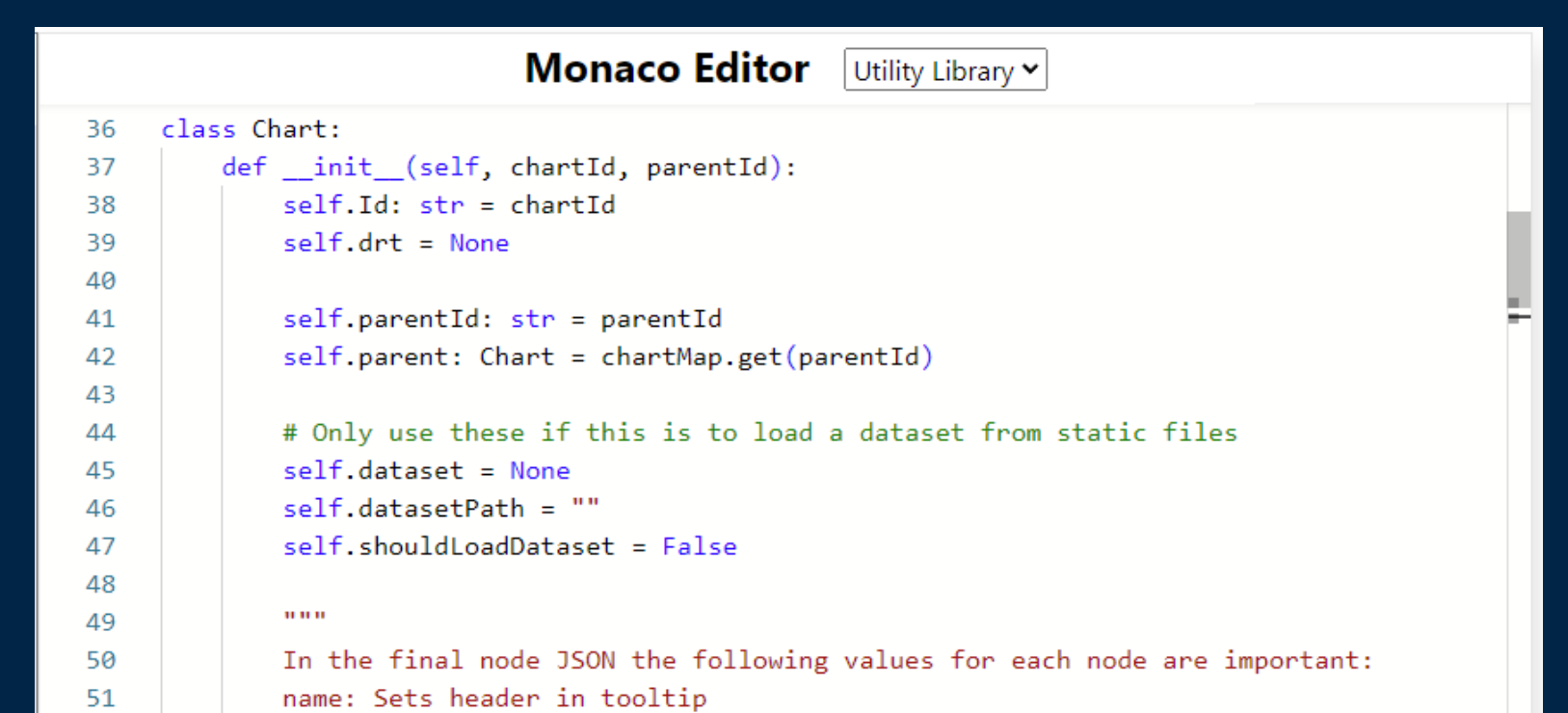
Create child Charts



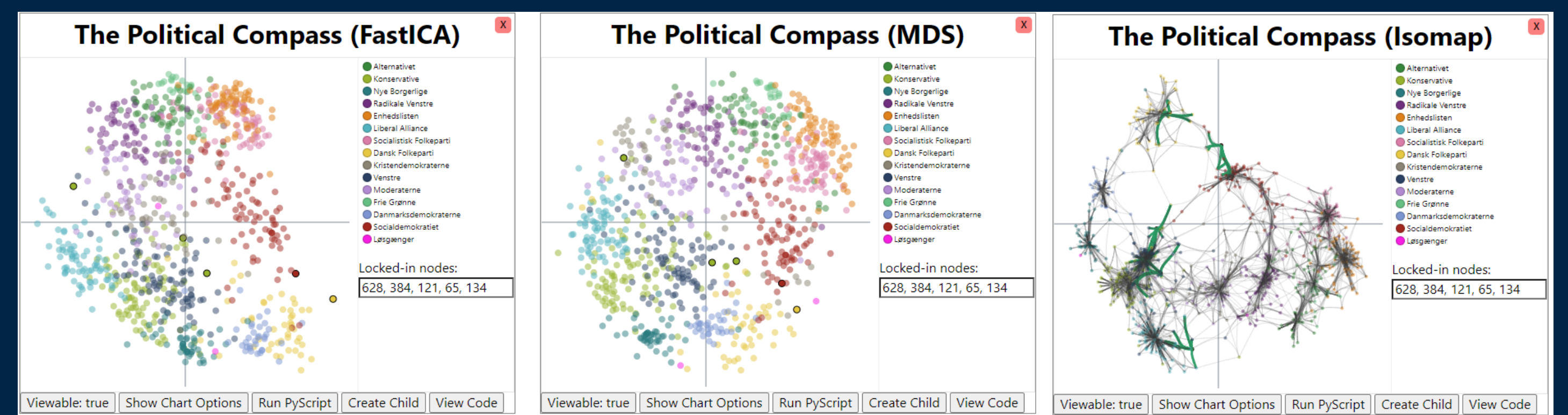
Common Python libraries²



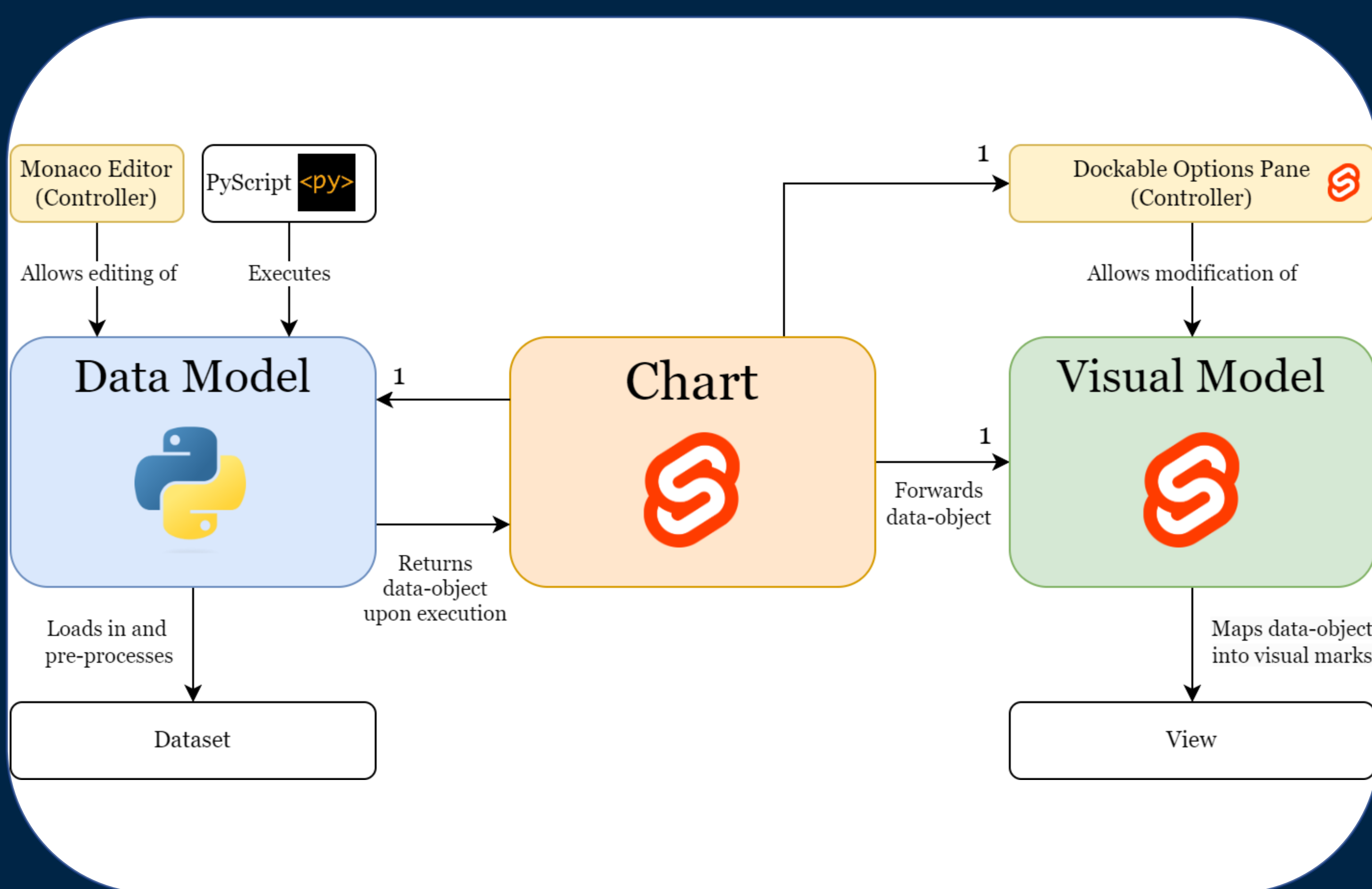
Code shared between Charts



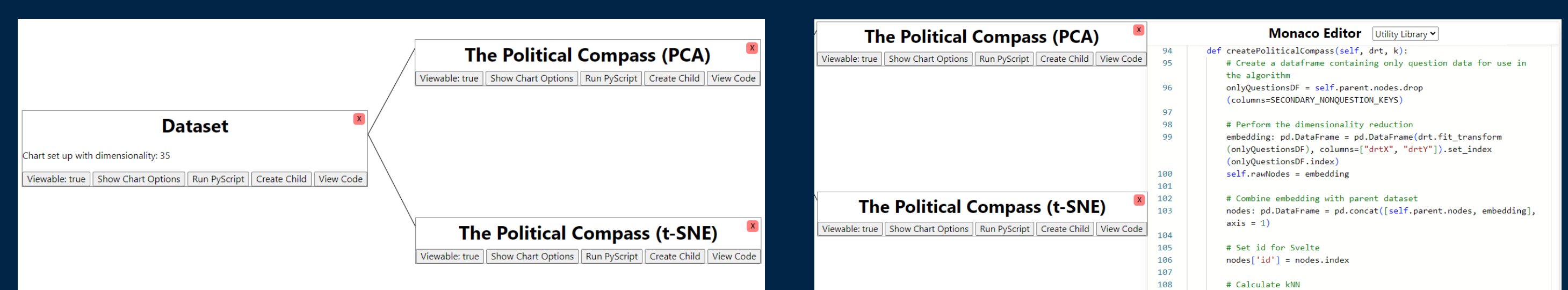
Compare nodes and their edges between charts



Architecture¹

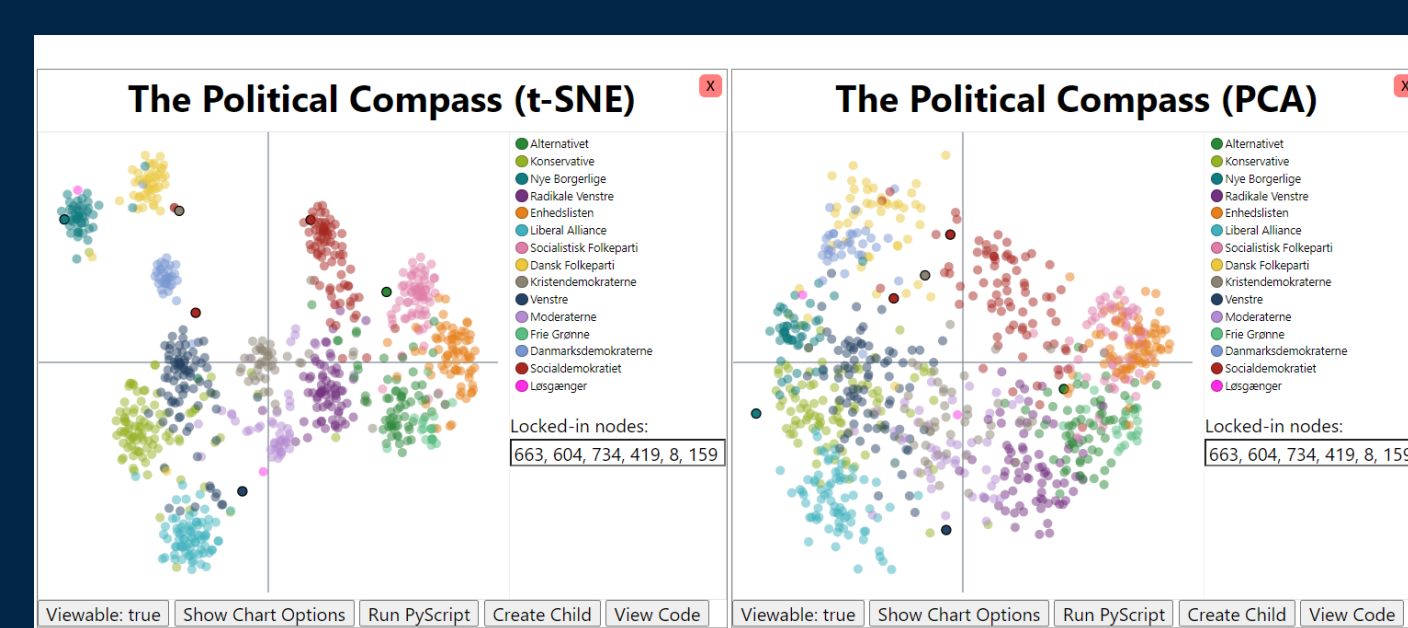


Case: The Political Compass

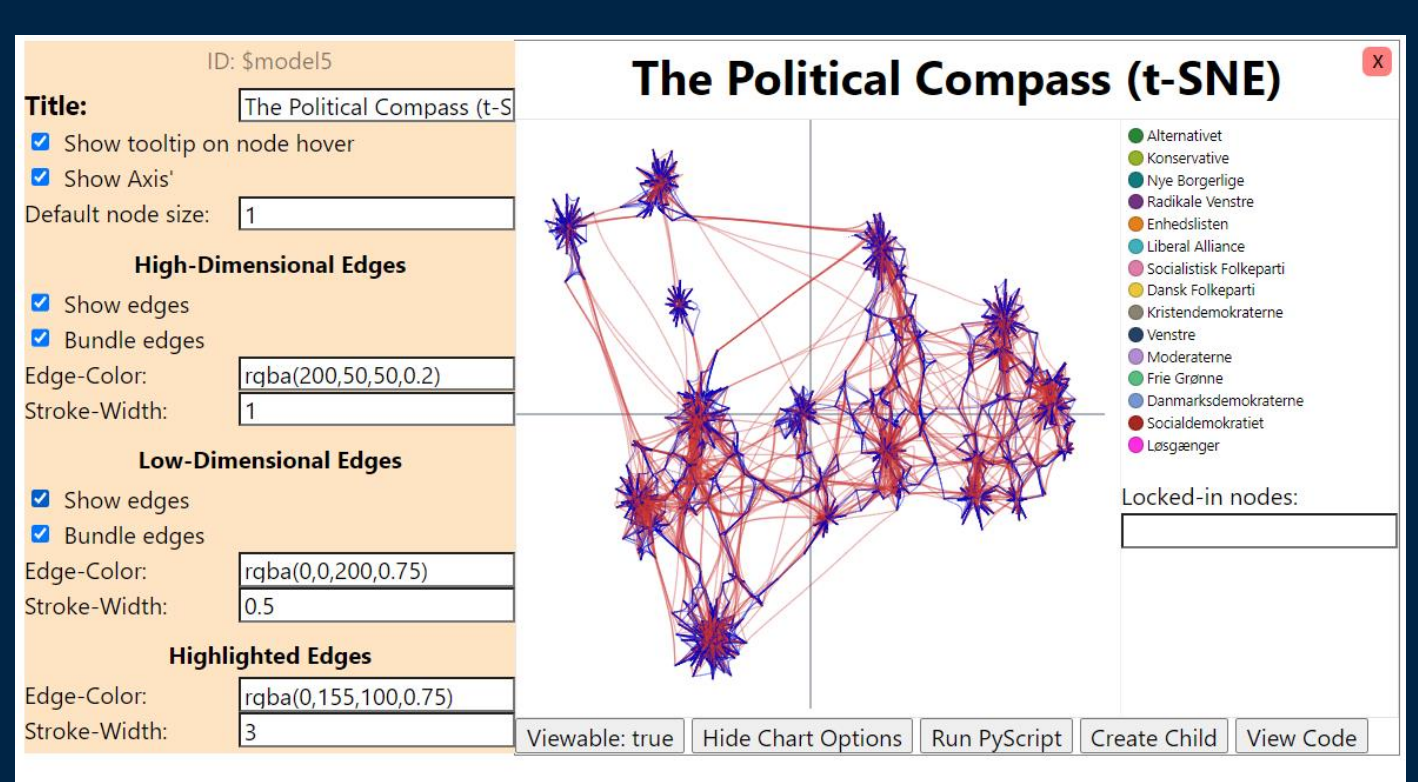


(1) Load in dataset and create child Charts

(2) Write shared functionality in Utility Library



(3) Lock in nodes to compare position between algorithms



(4) Compare kNN before and after dimensionality reduction

¹ Reminiscent of the Reference Model design pattern, see <https://doi.org/10.1109/TVCG.2006.178>
² Examples are <https://scikit-learn.org/>, <https://pandas.pydata.org/> and <https://numpy.org/>

