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1. Summ

Investigating vital sign time series data presents several challenges when attempting to apply rudimentary statistical methods are used across patient strata. For example, when looking at reported post-surgery pain scores, one might find slopes of scores logged for patients stratified by pain trajectories between males and females primitive and can miss many important behaviors.

We present a technique which uses Symbolic Approximation (SAX) to convert time series representations, called SAX words, into patterns, or motifs. In our analysis, each motif is a permutation of two subsequent SAX words. These motifs are aggregated across all patients and rendered into a graphical format. In addition to providing the researcher with a visual representation of series behaviors across patient strata, the motifs are sorted/clustering using simple methods - to show information that would otherwise be lost in the original time series representation.