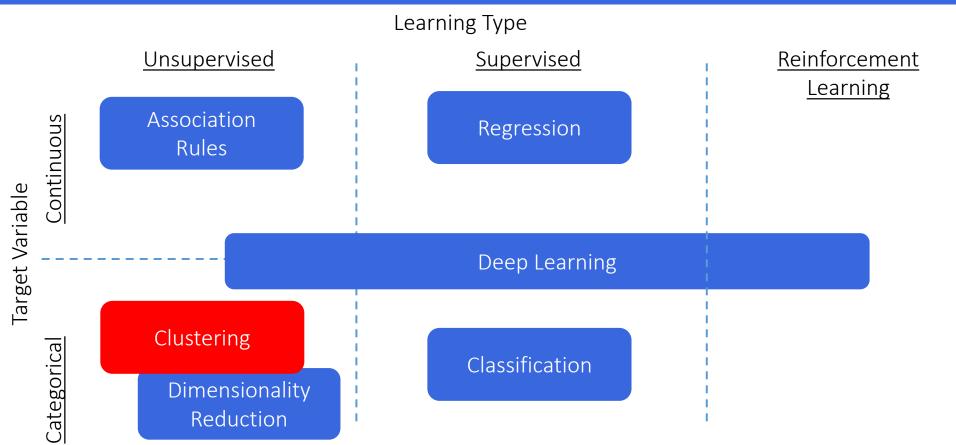
Machine Learning Types



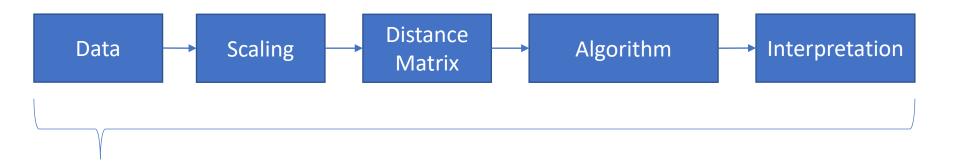
Introduction

- Unsupervised learning technique no labels available
- Classify data points into groups
- Data within same group have similar properties
- Data within different groups have dissimilar properties
- Used for getting insights rather than prediction
- Provides classes / clusters without intrinsic value
 - → you need to define a useful label

Usecases

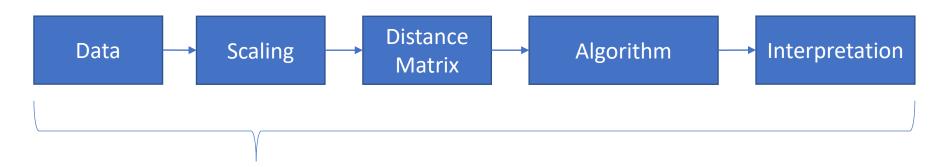
- Marketing
 - Focuses on data within clusters
 - customer and buying patterns
- Outlier detection
 - Focuses on data not within clusters
 - Cyber security (network intrusion)
- Dimensionality Reduction
 - Reduce number of features

Workflow



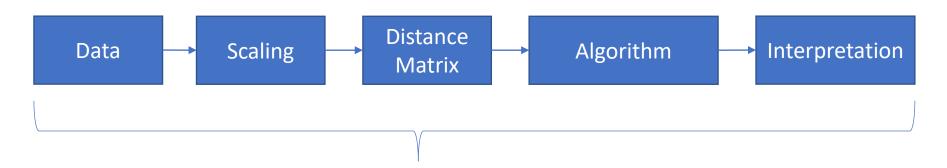
- Variables can be all continuous or all categorical.
- Both types cannot be combined in one analysis.

Workflow



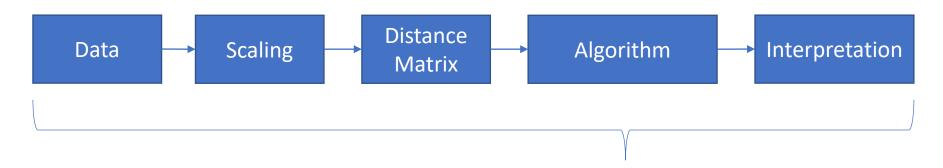
Scale data to avoid different scales

Workflow



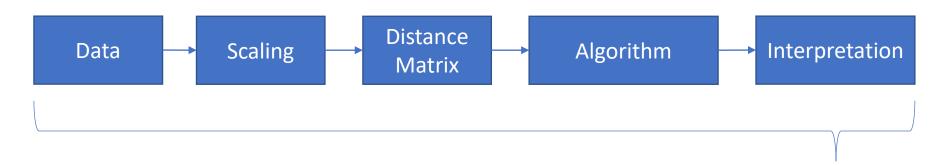
- Distance matrix for continuous variables
- Similarity matrix for categorical variables

Workflow



Algorithm selection

Workflow



Use the results to get deeper insights