CS 6170: Computational Topology, Spring 2019 Lecture 11

Topological Data Analysis for Data Scientists

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School of Computing
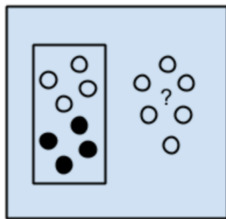Scientific Computing and Imaging Institute (SCI)
University of Utah
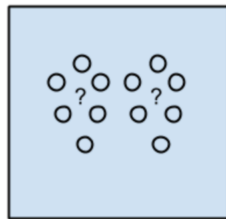www.sci.utah.edu/~beiwang
beiwang@sci.utah.edu

Feb 12, 2019

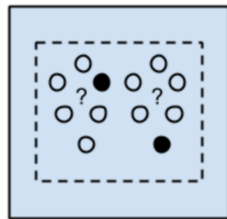# Machine Learning at a Glance

Supervised Learning

Problems: Classification Regression

Unsupervised Learning
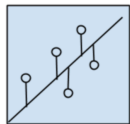
Problems: Clustering Dimensionality Reduction
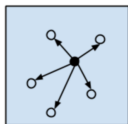
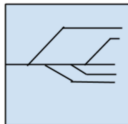**Semi-supervised Learning**

Problems: Classification Regression

`https://machinelearningmastery.com/a-tour-of-machine-learning-algorithms/`
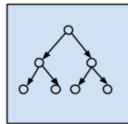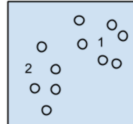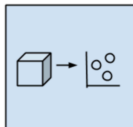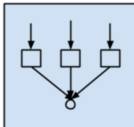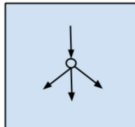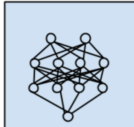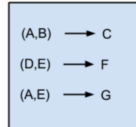
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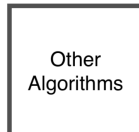
Scikit-learn algorithm cheat-sheet

https://scikit-learn.org/stable/
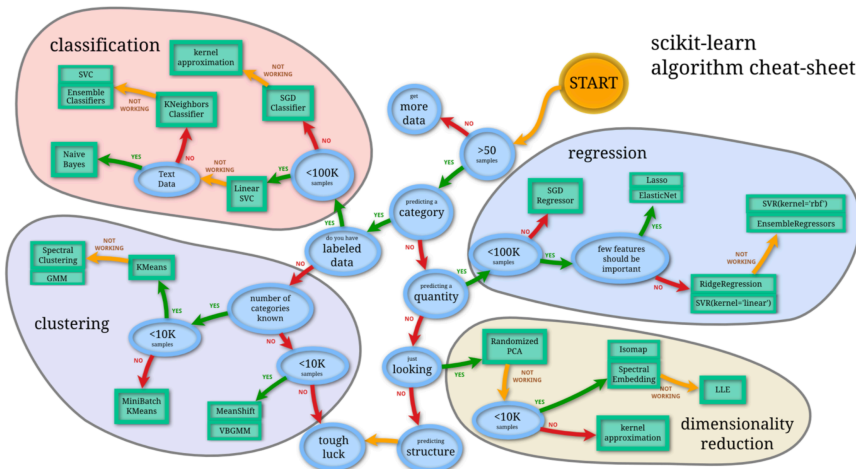
Unsupervised Learning: Clustering: Mapper
High-Dimensional Data Analysis
See the whiteboard for the mapper algorithm
Singh et al. (2007)

Singh, G., Mémoli, F., and Carlsson, G. (2007). Topological methods for the analysis of high dimensional data sets and 3D object recognition. In *Eurographics Symposium on Point-Based Graphics*.