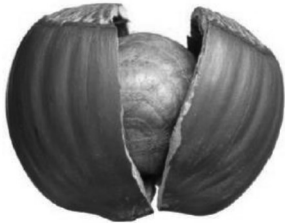# Data Mining in a Nutshell:

Types of Methods

Supervised Learning (Predictive Analytics)
• Prediction (numerical Y)
• Classification (categorical Y)

Unsupervised Learning
• Segmentation/Clustering
• Dimension Reduction
• Relationship Mining
• Recommendation System
• Network Analysis

The Data Mining Process

Define purpose > Obtain data > Explore & Clean data > Determine DM task > Choose DM Methods >

Apply methods, Select final model > Evaluate Performance > Deploy

Data Preparation & Exploration (2-3)

1) Sampling 2) cleaning 3) summaries 4) visualization 5) Partitioning 6) Dimension reduction

- Prediction
1) MLR 2) k-nearest neighbor 3) Regression tress
    4) Neural nets
- Classification

1) K-nearest neighbor 2) Naïve Bayes 3) Logistic regression

4) Classification trees 5) Neural nets

6) Discrimination analysis

- Network analysis
- Segmentation clustering
- Affinity analysis/Association rules

- Model evaluation & selection
- Deriving insights