Cluster Analysis: Applications

❑ A key intermediate step for other data mining tasks

  ❑ Generating a compact summary of data for classification, pattern discovery, hypothesis generation and testing, etc.

  ❑ Outlier detection: Outliers—those "far away" from any cluster

❑ Data summarization, compression, and reduction

  ❑ Ex. Image processing: Vector quantization

❑ Collaborative filtering, recommendation systems, or customer segmentation

  ❑ Find like-minded users or similar products

❑ Dynamic trend detection

  ❑ Clustering stream data and detecting trends and patterns

❑ Multimedia data analysis, biological data analysis and social network analysis

  ❑ Ex. Clustering images or video/audio clips, gene/protein sequences, etc.