

DATA MINING AND ITS APPLICATIONS

1. Introduction:

Data mining: Definitions, KDD v/s Data Mining, DBMS v/s Data Mining. DM techniques, Mining problems. Issues and Challenges in DM, DM Application areas.

2. Association Rules & Clustering Techniques:

Introduction, Various association algorithms like Apriori, Partition, Pineer search etc., Generalized association rules. Clustering paradigms: Partitioning algorithms like K-Mediod, CLARA, CLARANS; Hierarchical clustering, DBSCAN, BIRCH, CURE; categorical clustering algorithms, STIRR, ROCK,CACTUS.

3. Other DM techniques and Web Mining:

Application of Neural Network, AI, Fuzzy Logic and Generic algorithm. Decision tree in DM. Web Mining. Web content mining, Web structure Mining. Web usage Mining.

4. Temporal and Spatial DM:

Temporal association rules, Sequence mining, GSP, SPADE, SPIRIT, and WUM algorithms, Episode Discovery, Event prediction, Time series analysis. Spatial Mining, Spatial Mining tasks. Spatial clustering, Spatial Trends.

5. Data Mining of Image and Video: A Case study.

Image and Video representation techniques, feature extraction, motion analysis, content based image and video retrieval, clustering and association paradigm, knowledge discovery.

Books suggested:

1. Data Mining Techniques :Arun K.Pujari : University Press.
2. Data Mining : Adriaans & Zantinge : Pearson education.
3. Mastering Data Mining: Berry Linoff : Wiley.
4. Data Mining : Dunham : Pearson education.