DATA MINING AND WAREHOUSING
Social Network Analysis

DHANYAJA N
Assistant Professor
STM Kannur

INTRODUCTION

➢ Social Network Analysis

➢ Characteristics of Social Networking

➢ Link Mining

➢ Tasks and challenges of Link Mining

Social Network Analysis

- Social network is defined as a social structure of individuals who are related based on a common relation of interest.

- Social Network Analysis is the study of social network to understand their structure and behavior.

Social Network Analysis

- A social network is a social structure between actors, mostly individuals or organizations.

- It indicates the ways in which they are connected through various social familiarities, ranging from casual acquaintance to close familiar bonds

Social Network Analysis

- In Social Network Analysis:
  - Nodes represent an Object or Entity
    - Ex: Person, Computer/Server etc
  - Links represent relationship
    - Ex: "Likes", "Follow"

Uses

- Identify the characteristics of graph
- Generate model of graph that exhibit these characteristics
- Use these tools to make predictions about the behavior of graph

Characteristic of Social Network

- Degree of Distribution
- Small World Effect
- Densification
- Shrinking Parameters

Link Mining

- Link Mining is a newly emerging area in Data Mining

- This explicitly consider the links when building predictive and descriptive models of the linked data.

Tasks involved in Link Mining

- Link based object classification
- Object type prediction
- Link type prediction
- Predicting link existences
- Link cardinality estimation
- Object reconciliation
- Group Detection
- Subgraph and metadata mining

Challenges in link mining

- Local Versus Statistical dependencies

- Feature construction

- Instances versus classes.

- Collective classification and collective consolidation

- Link Prediction

- Effective uses of labeled and unlabeled data