

19BAE734 - Social Network Analytics

Unit I: INTRODUCTION TO SOCIAL MEDIA AND SOCIAL NETWORKS

2-Marks

1. What is the main function of semantic web?
2. Why is semantic web used in current system?
3. What is the purpose of semantic web?
4. Why is semantic web so useful for the development of web?
5. Why is semantic web regarded as integrator?
6. What are limitations of HTML?
7. Why is HTML used in semantic web?
8. What is the limitation of HTML forms?
9. What are the design flaws involved in html forms?
10. What is being provided by metadata tags?

16-Marks

1. What is the limitation of current web? Explain the development of semantic web and the emergence of social web.
2. Briefly explain the development of Social Network Analysis.
3. Enumerate the static properties of social networks.
4. Explain the dynamic properties of social networks.
5. Illustrate the global structure of networks with an example.
6. Discuss in detail about the macro-structure of social networks.
7. Enumerate the different dimension of social capital and their related concepts and measures.
8. Briefly explain the following:
 - a) Electronic discussion networks
 - b) Blogs and online communities
 - c) Web-based networks
 - d) Personal networks
9. Explain the statistical properties of social network analysis.
10. Discuss the business application of social network analysis

Unit – 2 : SOCIAL MEDIA – NEW TECHNOLOGIES OF COLLABORATION

2-Marks

1. What are the uses of statistics in data mining?
2. What are the factors to be considered while selecting the sample in statistics?
3. Name some advanced database system.
4. Name some specific application-oriented databases
5. What is meant by relational database?
6. What is meant by transactional database?
7. What is spatial database?
8. What is temporal database?
9. What is time-series databases?
10. Why machine learning is done?

16-Marks

1. Explain the architecture of data warehouse
2. What is data mining? Explain the steps in knowledge discovery?
3. Explain the data pre-processing techniques in detail? Explain the smoothing techniques?
4. Explain types of social network.
5. Explain normalization in detail?
6. Explain data reduction?
7. Explain data discrimination and concept hierarchy generation?
8. Explain statistical measures in database?
9. Explain multilevel association rule?
10. Explain multidimensional database_briefly?

Unit – 3: NETWORK ANALYSIS

2-Marks

1. What is a web community?
2. How a web community does differ from a community of people?
3. How is web community extracted?
4. What is meant by virtual community?

5. What is the purpose of evolution metrics?
6. What attributes are used to represent how many URLs the focused community obtains or loss?
7. Justify the statement "The Web is extremely dynamic".
8. Write notes on web community charts.
9. What is the size distribution of communities?
10. What is meant by community structure?

16-Marks

1. What is web community? How will you extract of web community from a series of web archives?
2. 1. discuss the various evolution metrics. 2. describe the various definitions of community.
3. Describe the types of networks.
5. Explain the node classification problem of Using R.
6. Discuss the various local classifiers to solve node classification problem.
7. Describe the data extraction from Twitter and youtube.
8. Explain the absorption method of node classification.
9. Explain how to apply Using R classification to large social networks.
10. Discuss the applications of community mining algorithms.

Unit 4 : Data Analysis and Visualization

2-Marks

1. What is visualization of online social networks?
2. What is meant by taxonomy of visualization?
3. Mention the different types of visualization.
4. What are the two approaches to structural visualization?
5. State the purpose of visualization.
6. What is meant by proximity of nodes?
7. What are the various layout algorithms?
8. Give the significance of graph layout algorithms?
9. Write short notes on node-edge diagrams.
10. Write notes on matrix-oriented techniques.
11. Write short notes on web communities.
12. What are digital libraries?
13. What do you mean by Content-centric visualization?

16-Marks

1. What is visualization? Explain social networks visualization on the web.
2. Discuss the taxonomy of visualization of social networks.
3. Explain the following: 1. Clustering 2. Centrality 3. Node-link diagrams

4. Explain the Node-edge diagrams to visualize social networks.
5. Explain how to visualize social networks with matrix-based representation. Also discuss the pros and cons of matrix-based representation.
6. Discuss the various approaches to scale node-link diagram to large networks with several thousand or millions of nodes.
7. Briefly explain the hybrid representation of visualization.
8. Briefly explain the concept of modeling and aggregating social network data.
9. Explain how clustering is performed with random walk-based measures. Also discuss the algorithms for computing proximity measures.
10. 1. Discuss the application of random walks approach. 2. Briefly explain the use of Hadoop and Map Reduce.

Unit 5 : PRIVACY & FUTURE OF SOCIAL MEDIA

2-Marks

1. What is meant by evolution in social Networks?
2. What is stream paradigm of computation?
3. Give the purpose of stream mining algorithm.
4. What is the use of sliding window in stream mining?
5. What are the two different threads of research on the analysis of dynamic social networks?
6. List the characteristics of perennial objects?
7. How will you compute the entity similarity matrix?
8. What is an Evolution Net?
9. What are the challenging issues in (dynamic) probabilistic modelling?
10. What are the two risk functions of non-parametric method?
11. What is meant by social influence?
12. What is meant by social correlation?
13. What is meant by triadic closure?
14. What is node-based centrality?
15. What is social action tracking?

16-Marks

1. 1. Discuss the four dimension that are associated to knowledge discovery in

social networks and elaborate on their interplay in the context of evolution.

2. Discuss the challenges of social networks streams.

2. Explain how communities evolve into the learning process as smoothly evolving constellation of interacting entities.

3. Discuss the various influence related statistics.

4. Explain briefly social similarity and influence.

5. Describe influence maximization in viral marketing.

6. Describe the expert location without graph constraints.

7. Describe the expert location will score propagation.

8. 1. Describe in detail expert score propagation.

2. Explain probabilistic relational models.

9. Explain in detail Bayesian probabilistic models.

10. Describe feature-based link prediction.