

Recommender Systems Important Questions (1-4 Units)

Assignment-1

1. Describe how the user-based nearest neighbor approach works in collaborative filtering. How do you compute the similarity between users?
2. Given a dataset of user ratings for movies, how would you apply user-based nearest neighbor methods to recommend movies to a user?
3. Compare the advantages and limitations of item-based nearest neighbor recommendations with those of user-based nearest neighbor recommendations.
4. Given a partially filled user-item rating matrix, explain how you would predict the missing ratings using collaborative filtering.
5. How would you apply a model-based collaborative filtering technique to predict ratings in a recommender system? Provide an example.
6. Discuss Explicit Feedback vs. Implicit Feedback
7. Discuss Content-Based vs. Collaborative Filtering Approaches
8. What are two primary models in recommender systems? Explain.
9. Discuss the goals of recommender systems.
10. Discuss the model-based Collaborative filtering.
11. Discuss the memory-based Collaborative filtering.
12. Elaborate on the statement-“Collaborative filtering models are closely related to missing value analysis in Data preprocessing.”
13. Discuss the common preprocessing techniques used for recommendation systems.
14. Explain Recent practical approaches for Recommender Systems.
15. Explain the steps in Content-Based Systems
16. Explain Aspects of content representation.
17. Discuss the Content-based image retrieval
18. Discuss Similarity Measures in Content Representation
19. What are the Challenges in Content Similarity? How may they be addressed in recommender systems?
20. Discuss the concept of Text classification for Content-based systems
21. Explain Deep Learning based Text Mining methods for content-based systems
22. What are Transformer Models for Content-based systems
23. What is Term Frequency-Inverse Document Frequency? Discuss.
24. What is Knowledge-based recommendation? Explain
25. Explain Constraint-based recommender systems for KBS
26. Discuss Case-based recommender systems for KBS
27. What are the crucial aspects of a case-based recommender system? Explain
28. Discuss types of critiquing methods
29. Explain Conversational systems, search-based systems, and navigational systems for interactions
30. Discuss Types of Knowledge Representation
31. Explain Interaction with Constraint-Based Recommenders
32. Write down the applications of Knowledge-based recommender systems
33. Define a Hybrid recommender System. Discuss types of Hybrid recommender systems.
34. Discuss the taxonomy of hybrid recommendation systems.
35. Explain the Monolithic design for the Hybrid recommendation with an example.
36. Discuss the steps in the Feature Combination hybrid recommendation for monolithic Design

37. Discuss the steps in a parallel design-based hybrid recommendation. Give its advantages over pipeline/sequential design
38. How does pipeline design work in Hybrid recommender systems? Discuss.
39. What are the Opportunities for Hybrid Recommender Systems? Explain.