Content-Based Filtering

TOTAL POINTS 10

1. All of the following are true statements about case-based reasoning except one. Which one is NOT true? 1 point

- It characterizes items by features.
- It provides a natural basis for interactive, conversational recommendation where the user iteratively refines their browsing.
- **It infers item similarity from user ratings.**
- It searches a base of prior knowledge to find items the user is likely to find interesting.

2. All but one of these techniques can be used for building a content filtering profile for a user. Which of these techniques is NOT used for building a content filtering profile? 1 point

- Provide an interface where users can specify and edit their own vector.
- **Build an attribute preference vector from explicit user ratings.**
- Build an attribute preference vector based on the most popular items in the catalog.
- Build an attribute preference vector based on user actions such as view/click/buy.

3. Which of these statements best describes the goal of the TFIDF formula? 1 point

- **To select items that most match your specific preferences, weighting each preference more highly if only a small number of items match that preference.**
- To select items that most match your specific preferences, weighting each preference more highly if a large number of items match that preference.
- To select items that most match your specific preferences, weighting each preference equally.
- To select items for you that generally match your preferences, but weighting the selection to favor items that are not selected by users very often.

4. The vector space model is quite useful for modeling document needs or item preferences, but it has some limitations. Which of the following is a serious limitation of the model? 1 point

- It results in profiles that are nearly impossible to explain to an ordinary user because they are based on complex combinations of attributes that don't make intuitive sense.
- It only works in domains where liking is a yes-no decisions; it can't handle degrees of preference.
- (selected) It limits preferences to a linear combination of attributes -- it can't specify that you either want Tom Hanks and Meg Ryan together, or neither of them, but not one without the other.
- It cannot produce top-n lists -- only predictions for individual item preferences.

5. Each of the following statements describes Entrée Style recommenders except one. Which of these statements DOES NOT describe the Entrée Style Recommenders? 1 point

- They don't use individual users' ratings of the items anywhere in the recommendation process.
- (selected) They build a model of user preferences that can be used to provide personalized recommendations.
- They provide an interface that allows the user to refine recommendations by requesting items that differ in a certain way from the current recommendation.
- They require a substantial collection of information about the items being recommended.

6. When is "term-frequency" most useful as part of a content-filtering recommender? 1 point

- When users are unlikely to have experienced many of the items in the system.
- When certain items are much more popular than other items.
- (selected) When the attributes of the items can apply in different degrees to different items.
- When certain terms aren't very useful because they apply to too many different items.

7. Pasquale Lops discussed a key advance in content-based filtering techniques. Simply stated, what is that advance? 1 point

- Better techniques for computing similarity between user profiles and item profiles that don't have the limitations of vector cosine.
- An improved model for textual descriptions that gives more weight to words appearing in headings and prominent locations.
- An improved model to replace TFIDF with a representation that gives greater weight to the co-occurrence of different keywords or attributes.
- (selected) Incorporating greater semantics into the recommenders -- moving from just sets of words to deeper understanding of text.

8. Sole Pera talked mining information from sources other than user ratings in order to help understand why users like certain items (e.g., books). What information did she suggest? 1 point

- Item co-occurrence data such as co-purchase data.
- Item attributes of a user’s most-liked items.
- User attributes such as demographics.
- (selected) Reviews written by the users for products.

9. What problem is solved by the compound-critiquing interface for a dialog-based recommender system such as CritiqueShop? 1 point

- (selected) It helps the user explore trade-offs that might improve the user’s utility (happiness), but that are still feasible, based on the products that actually exist.
- It updates the content profile for items, allowing users to correct errors they find.
- It helps the user see her own profile of preferences, so she can edit it if she feels the system hasn’t represented her preferences correctly.
- It helps the user understand how many different products there are in the system.

10. What factors do we consider when deciding whether to assign weights to the item vectors being incorporated into a user’s profile? 1 point

- Whether we have rating data that identifies “greater” or “lesser” liking.

- ○ Whether we believe more recently consumed (or rated) items are more reflective of a user's actual tastes.
- ○ Whether we have rating data that distinguishes dislike from like.
- ◉ We should consider all of these factors.

☐ I, **BAL KRISHNA NYAUPANE**, understand that submitting work that isn't my own may result in permanent failure of this course or deactivation of my Coursera account.

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