

CSPB 4622 - Truong - Machine Learning

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Started on Sunday, 13 October 2024, 5:32 PM

State Finished

Completed on Sunday, 13 October 2024, 6:03 PM

Time taken 30 mins 30 secs

Marks 1.00/4.00

Grade 2.50 out of 10.00 (25%)

Question 1

Incorrect

Mark 0.00 out of 1.00

What would be the calculation complexity (cost) to compute the *User-User similarity matrix* m = Number of Items n = Number of Users

- ☐ a. $O(m * m * n)$
- ☒ b. $O(m * n)$
- ☐ c. $O(m + n)$
- ☐ d. $O(m * n * n)$

✗

Question 2

Correct

Mark 1.00 out of 1.00

Recommendations or Predictions are made based on the properties (features) of an item in: **Collaborative Filtering or Content Filtering**

- ☐ a. Collaborative Filtering
- ☒ b. Content Filtering

✓

Question 3

Incorrect

Mark 0.00 out of 1.00

Recommender System Consider a table with 4 user ratings on 8 items as shown below.

userID/game	WatchDog	GTAV	PUBG	StarCraft	CallOfDuty	FIFA	WOW	MineCraft
firechicken	3	3	4		4	2	3	
mike0702	3	5	4	3	3			4
zephyros		4		5			2	1
dadvador	2			4		4	4	5

Treating the utility matrix as boolean (buy or not buy), compute the Jaccard distance between mike0702 and zephyros. Please answer to three decimal places. **Note** It is possible to solve this question mathematically, but it may be easier to solve this question programmatically.

Answer: ✖

Question 4

Incorrect

Mark 0.00 out of 1.00

Recommender System Consider a table with 4 user ratings on 8 items as shown below.

userID/game	WatchDog	GTAV	PUBG	StarCraft	CallOfDuty	FIFA	WOW	MineCraft
firechicken	3	3	4		4	2	3	
mike0702	3	5	4	3	3			4
zephyros		4		5			2	1
dadvador	2			4		4	4	5

Treating the utility matrix as boolean (buy or not buy), compute the Cosine distance between mike0702 and zephyros. Please answer to three decimal places. **Note** It is possible to solve this question mathematically, but it may be easier to solve this question programmatically. You can consider anything that has rating as buy.

Answer: ✖

Question 5

Complete

Not graded

Recommender System Consider a table with 4 user ratings on 8 items as shown below.

userID/game	WatchDog	GTAV	PUBG	StarCraft	CallOfDuty	FIFA	WOW	MineCraft
firechicken	3	3	4		4	2	3	
mike0702	3	5	4	3	3			4
zephyros		4		5			2	1
dadvador	2			4		4	4	5

Now, let's convert user ratings to good vs. bad. We consider it's good (1) if the rating is 3 or above, and bad (0) otherwise. Compute the Jaccard distance between zephyros and dadvador. Please answer to three decimal places.

Answer: