

Congratulations! You passed!

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1. Vector  $x_u$  and vector  $x_m$  must be of the same dimension, where  $x_u$  is the input features vector for a user (age, gender, etc.)  $x_m$  is the input features vector for a movie (year, genre, etc.) True or false?

True

False

Correct

These vectors can be different dimensions.

1 / 1 point

2. If we find that two movies,  $i$  and  $j$ , have vectors  $v_i^{(k)}$  and  $v_j^{(k)}$  that are similar to each other (i.e.,  $\|v_i^{(k)} - v_j^{(k)}\|$  is small), then which of the following is likely to be true? Pick the best answer.

The two movies are very dissimilar.

A user that has watched one of these two movies has probably watched the other as well.

We should recommend to users one of these two movies, but not both.

The two movies are similar to each other and will be liked by similar users.

Correct

Similar movies generate similar  $v_u$ 's.

1 / 1 point

3. Which of the following neural network configurations are valid for a content based filtering application? Please note carefully the dimensions of the neural network indicated in the diagram. Check all the options that apply:

User content

$x_u$

512

256

32

$v_u$

movie/item content

$x_m$

128

64

32

$v_m$

Predicted Rating

The user and the item networks have different architectures

Correct

User and item networks can be the same or different sizes.

User content

$x_u$

256

128

32

$v_u$

movie/item content

$x_m$

256

128

32

$v_m$

Predicted Rating

Both the user and the item networks have the same architecture

Correct

User and item networks can be the same or different sizes.

User content

$x_u$

256

128

32

$v_u$

movie/item content

$x_m$

256

128

64

$v_m$

Predicted Rating

The user vector  $v_u$  is 32 dimensional, and the item vector  $v_m$  is 64 dimensional

Correct

User and item networks have 64 dimensional  $v_u$  and  $v_m$  vector respectively

User content

$x_u$

256

128

64

$v_u$

movie/item content

$x_m$

256

128

64

$v_m$

Predicted Rating

The user and item networks have 64 dimensional  $v_u$  and  $v_m$  vector respectively

Correct

Feature vectors can be any size so long as  $v_u$  and  $v_m$  are the same size.

4. You have built a recommendation system to retrieve musical pieces from a large database of music, and have an algorithm that uses separate retrieval and ranking steps. If you modify the algorithm to add more musical pieces to the retrieved list (i.e., the retrieval step returns more items), which of these are likely to happen? Check all that apply.

The system's response time might increase (i.e., users have to wait longer to get recommendations)

Correct

A larger retrieval list may take longer to process which may increase response time.

1 / 1 point