



Bookmarks

▶ Machine Learning Course: Getting Started

▶ Week 1

▶ Week 2

▶ Week 3

▶ Week 4

▶ Week 5

▶ Week 6

▶ Week 7

▶ Week 8

▼ Week 9

Lecture 17 Matrix Factorization, Collaborative Filtering for Recommendation

Lecture 18 Topic Modeling, Non-negative Matrix Factorization

Week 9 Quiz

Quiz due Apr 11, 2017 05:00 IST

Week 9 Project: Clustering

Project due Apr 11, 2017 05:00 IST

Week 9 > Week 9 Quiz > Week 9 Quiz

Week 9 Quiz

Bookmark this page

Checkboxes

0/1 point (graded)

Which of the following are problems that are naturally addressed by collaborative filtering?

☒ recommending movies

☒ recommending a political policy

☒ recommending music

☒ recommending restaurants



Submit

You have used 1 of 1 attempt

✖ Incorrect (0/1 point)

Multiple Choice

1/1 point (graded)

A content filter ...

☒ uses known information about the products and users to make recommendations.

☐ uses previous user inputs/behaviors to make future recommendations.

Submit

You have used 1 of 1 attempt

Week 9 Discussion Questions

Multiple Choice

1/1 point (graded)

A collaborative filter ...

- ☐ uses known information about the products and users to make recommendations.
- ☒ uses previous user inputs/behaviors to make future recommendations. ✓

You have used 1 of 1 attempt

Multiple Choice

1/1 point (graded)

True or false: Content filtering and collaborative filtering are two distinct approaches that are not able to be combined in a single model.

- ☐ TRUE
- ☒ FALSE ✓

You have used 1 of 1 attempt

Checkboxes

1/1 point (graded)

Check all true statements about collaborative filtering using matrix factorization.

- ☒ we anticipate it will work because we make a low rank assumption
- ☐ all values in the matrix are needed before learning can begin
- ☒ probabilistic matrix factorization can be thought of as a set of connected ridge regression problems

- ☒ it can be thought of as a way for embedding users and objects into a latent space



Submit

You have used 1 of 1 attempt

Multiple Choice

1/1 point (graded)

True or false: Latent Dirichlet allocation can be thought of a a nonnegative matrix factorization problem.

- ☒ TRUE ✓

- ☐ FALSE

Submit

You have used 1 of 1 attempt

Multiple Choice

1/1 point (graded)

In LDA, the "topics" correspond to ____ .

- ☒ distributions on words that are semantically meaningful ✓

- ☐ distributions on how each document uses the themes available to it

- ☐ the collection of word assignments to their respective themes

Submit

You have used 1 of 1 attempt

✓ Correct (1/1 point)

Multiple Choice

1/1 point (graded)

This week we discussed probabilistic matrix factorization (PMF) and nonnegative matrix factorization (NMF). Which can be considered a "parts-

based learning" model?

☐ PMF

☒ NMF ✓

☐ both

☐ neither

Submit

You have used 1 of 1 attempt

Multiple Choice

1/1 point (graded)

We made some loose connections between LDA and NMF. Which of the following is true?

☐ LDA and NMF are both Bayesian models

☐ LDA is a maximum likelihood model, while NMF can be thought of as a fully Bayesian model

☒ LDA is a fully Bayesian model, while NMF can be thought of as a maximum likelihood model ✓

☐ neither LDA nor NMF have probabilistic interpretations

Submit

You have used 1 of 1 attempt

Multiple Choice

1/1 point (graded)

We discussed two version of NMF. Which one(s), if any, correspond to a Poisson model?

☐ $\|X - WH\|^2$

☒ $D(X||WH)$ ✓

☐ both

☐ neither

Submit

You have used 1 of 1 attempt

© All Rights Reserved



© 2012-2017 edX Inc. All rights reserved except where noted. EdX, Open edX and the edX and Open EdX logos are registered trademarks or trademarks of edX Inc.

POWERED BY
OPENedX®

