CS-E4740 - Federated Learning D, Lectures, 28.2.2024-29.5.2024

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Time taken	1 hour 58 mins
Grade	**9.50** out of 11.00 (**86.36**%)

Question 1

Flag question Mark 2.00 out of 2.00 Correct

For which scenarios is clustered FL preferable over single-model FL?

- a. The local datasets have similar statistical properties but some local datasets use different features for datapoints.
- b. The local datasets are heterogeneous in the sense of having different statistical properties. ✔
- c. The local datasets have similar statistical properties but some of them are too small.
- d. The local datasets have similar statistical properties but some of them are too large.

Your answer is correct.

See section 6.3 in the Lecture Notes (link).

The correct answer is:
The local datasets are heterogeneous in the sense of having different statistical properties.

Question 2

Flag question Mark 1.50 out of 3.00 Partially correct

Which of the following statements characterize horizontal FL?

- a. All local datasets must contain identical data points.
- b. Horizontal FL can be considered as a form of semi-supervised learning.
- c. The features used in a local dataset must be a proper subset of the raw features measured for each data point.
- d. The data points must be characterized by the same features in all local datasets. ✔

Your answer is partially correct.

You have correctly selected 1.
See section 6.4 in the Lecture Notes (link).

The correct answers are:
The data points must be characterized by the same features in all local datasets.,
Horizontal FL can be considered as a form of semi-supervised learning.

Question 3

Flag question Mark 2.00 out of 2.00 Correct

*This question refers to **the student task #1** in the "FL Main Flavors" assignment.*

What is the average squared loss over all nodes for a K-Means clustering with the latitude and longitude values of the FMI stations as a representative vector?

- a. The average squared loss lies **in [41, 50]**.
- b. The average squared loss lies **in [70, 80]**.
- c. The average squared loss lies **in [35, 40]**. ✔
- d. The average squared loss lies **in [51, 60]**.
- e. The average squared loss lies **in [30, 33]**.
- f. The average squared loss lies **in [80, 90]**.

Your answer is correct.

Please, join Slack channel (link) to discuss the assignment questions.

The correct answer is:
The average squared loss lies **in [35, 40]**.

Question 4

Flag question Mark 2.00 out of 2.00 Correct

*This question refers to **the student task #2** in the "FL Main Flavors" assignment.*

What is the average squared loss over all nodes for a K-Means clustering with the fitted GMM's parameters as a representative vector?

- a. The average squared loss lies **in [60, 70]**.
- b. The average squared loss lies **in [36, 45]**. ✔
- c. The average squared loss lies **in [15, 25]**.
- d. The average squared loss lies **in [4, 10]**.
- e. The average squared loss lies **in [50, 60]**.
- f. The average squared loss lies **in [0, 5]**.

Your answer is correct.

Please, join Slack channel (link) to discuss the assignment questions.

The correct answer is:
The average squared loss lies **in [36, 45]**.

Question 5

Flag question Mark 2.00 out of 2.00 Correct

*This question refers to **the student task #3** in the "FL Main Flavors" assignment.*

What is the average squared loss over all nodes for a K-Means clustering with the eigenvectors of the Laplacian matrix as a representative vector?

- a. The average squared loss lies **in [25, 30]**.
- b. The average squared loss lies **in [35, 40]**. ✔
- c. The average squared loss lies **in [90, 100]**.
- d. The average squared loss lies **in [80, 90]**.
- e. The average squared loss lies **in [50, 55]**.
- f. The average squared loss lies **in [45, 50]**.

Your answer is correct.

The correct answer is:
The average squared loss lies **in [35, 40]**.

Finish review

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"Graph Learning" ►