✓ **Congratulations! You passed!**   [Go to next item]

Grade received 100%   **To pass** 80% or higher

Siamese Networks

Total points 10

1. Classification allows you to identify similarity between two things while siamese networks allow you to categorize things.   **1 / 1 point**

   ⦿ False

   ○ True

   > ✓ **Correct**
   > Correct.

2. Do the two subnetworks in a siamese network share the same parameters?   **1 / 1 point**

   ○ False

   ⦿ True

   > ✓ **Correct**
   > Correct.

3. When training a siamese network to identify duplicates, which pairs of questions from the following questions do you expect to have the highest cosine similarity ?   **1 / 1 point**

   Is learning NLP useful for me to get a job? (ANCHOR)

   What should I learn to get a job? (POSITIVE)

   Where is the job? (NEGATIVE)

   ⦿ Anchor, Positive

   ○ Anchor, Negative

   ○ Negative, Positive

   > ✓ **Correct**
   > Correct.

4. In the triplet loss function below, will decreasing the hyperparameter alpha from 0.5 to 0.2 require more, or less, optimization during training ?   **1 / 1 point**

   $$\text{diff} = s(A, N) - s(A, P)$$

   $$\mathcal{L}(A, P, N) = \max(diff + \alpha, 0)$$

   ⦿ Less

   ○ More.

   > ✓ **Correct**
   > Correct. Alpha is the margin, so the smaller it is the less you have to optimize.

5. The orange square below corresponds to the similarity score of question duplicates?

1 / 1 point

0.7	-0.6	-0.4
-0.6	0.4	0.1
-0.4	0.1	0.5

- ⦿ False
- ○ True

✓ **Correct**
Correct. They correspond to non question duplicates.

6. What is the closest negative in this set of numbers assuming a duplicate pair similarity of 0.6?

1 / 1 point

[-0.9,-0.4,0.4, 0.8]

- ○ -0.9
- ○ -0.4
- ⦿ 0.4
- ○ 0.8

✓ **Correct**
Correct.

7. In one shot learning, is any retraining required when new classes are added? For example, a new bank customer's signature.

1 / 1 point

- ○ True
- ⦿ False

✓ **Correct**
Correct.

8. During training, you have to update the weights of each parameters of the subnetwork independently.

1 / 1 point

- ⦿ False.
- ○ True.

✓ **Correct**
Correct. You update the same weight.

9. The mean negative is defined as the closest off-diagonal value to the diagonal in each row (excluding the diagonal).

1 / 1 point

- ○ True
- ⦿ False

10. In what order are Siamese networks performed in lecture?   1 / 1 point

⦿   1. Convert each input into an array of numbers

      2. Feed arrays into your model

      3. Compare $v1, v2$ using cosine similarity

      4. Test against a threshold

◯   1. Convert each input into an array of numbers

      2. Feed arrays into your model

      3. Run logistic regression classifier

      4. Classify by using the probability

◯   1. Convert each input into an array of numbers

      2. Feed arrays into your model

      3. Run soft-max classifier for all classes

      4. Take the arg-max of the probabilities

◯   1. Convert each input into an array of numbers

      2. Feed arrays into your model

      3. Compare $v1, v2$ using euclidean distance

      4. Test against a threshold