

Feature extraction from text and images

Quiz, 4 questions

2
points

1.

Select true statements about n-grams

- ☐ N-grams always help increase significance of important words
 - ☐ Levenshteining should always be applied before computing n-grams
 - ☒ N-grams can help utilize local context around each word
 - ☒ N-grams features are typically sparse
-

1
point

2.

Select true statements.

- ☒ Bag of words usually produces longer vectors than Word2vec
 - ☐ Meaning of each value in BOW matrix is unknown.
 - ☐ You do not need bag of words features in a competition if you have word2vec features.
 - ☒ Semantically similar words usually have similar word2vec embeddings.
-

2
points

3.

Suppose in a new competition we are given a dataset of 2D medical images. We want to extract image descriptors from the last hidden layer of a medical network pretrained on the ImageNet dataset. We will then use extracted descriptors to train a simple logistic regression model to classify images from our dataset.

We consider to use two networks: ResNet-50 with imagenet accuracy of X and VGG-16 with imageNet accuracy of Y ($X < Y$). Select true statements.

- ☐ Descriptors from ResNet-50 and from VGG-16 are always very similar in cosine distance.
- ☐ Descriptors from ResNet 50 will always be better than the ones from VGG-16 in our pipeline.
- ☐ For any image descriptors from the last hidden layer of ResNet-50 are the same as the descriptors from the last hidden layer of VGG-16.
- ☒ It is not clear what descriptors are better on our dataset. We should evaluate both.
- ☐ With one pretrained CNN model you can get only one vector of descriptors for an image

1
point

4.
Data augmentation can be used at (1) train time (2) test time

- ☒ True, True
- ☐ False, True
- ☐ False, False
- ☐ True, False

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