

Assignment Week 2

Question 1

3.0 / 3.0

How does building machine learning applications differ from normal software development projects?

Note: There are 2 correct answers to this question.

- ☒ The performance of the machine learning application depends to a large extent on the data and parameters. Correct!
- ☐ Machine learning applications do not have clear requirements.
- ☒ Developing machine learning applications requires many attempts at testing different models and parameters empirically. Correct!
- ☐ The performance of the machine learning application depends mostly on the code the developers write.

Question 2

3.0 / 3.0

Which of the following statements about the role of the dev set are true?

Note: There are 2 correct answers to this question.

- ☐ The dev set is used to provide more training data if required.
- ☒ The dev set is used to check whether the model generalizes from the training data. Correct!
- ☒ The dev set is used to tune hyperparameters. Correct!
- ☐ The dev set is used to test whether the code has compiled correctly.

Question 3

3.0 / 3.0

How does regularization help models to generalize better?

- ☒ By enabling models to learn the systematic underlying pattern in the training data Correct!
- ☐ By enabling models to memorize the complete training data
- ☐ By enabling models to learn every detail of the training data
- ☐ By enabling models to learn only linear functions which generalize best

Question 4

3.0 / 3.0

Which of the following techniques could help you reduce dev error?

- ☐ Increase the size of the training set.
- ☒ Add regularization to the model training. Correct!
- ☐ Train longer.
- ☐ Increase the capacity of the network (more layers, more neurons).

Question 5

0.0 / 3.0

When should you use a pre-built input function in an estimator?

Note: There are 2 correct answers to this question.

- ☐ When your data is in a supported format (Pandas or Numpy) Correct Answer
- ☒ When your data fits into memory Correct!
- ☒ When you need to do additional preprocessing inside the input function Your Answer
- ☐ When you need to take special action at the end of each epoch

Question 6

0.0 / 3.0

Which of the following statements about feature engineering are true?

Note: There are 2 correct answers to this question.

- ☐ Crossing generates combinations of two existing features. Correct Answer
- ☒ Embedding is not learned automatically by a deep neural network. Your Answer
- ☐ Bucketing divides a feature into ranges. Correct Answer
- ☒ Hashing is not appropriate when working with large vocabularies. Your Answer

Question 7

3.0 / 3.0

Which of the following statements about embedding are true?

Note: There are 2 correct answers to this question.

- ☒ An embedding column can be used to find an efficient representation for a categorical feature with a large vocabulary. Correct!
- ☐ Feature columns do not support embedding.
- ☒ Embedding can help a classifier "understand" that jobs like "software engineer" and "developer" are similar. Correct!
- ☐ Embedding will not be learned automatically from your data while training a deep neural network.

Question 8

3.0 / 3.0

Which neural network architecture is the most natural fit for processing time-series data?

- ☐ Feed-forward networks, because they process fixed-length inputs
- ☐ Convolutional networks, because they have local filters
- ☒ Sequence models, because they can process variable-length inputs Correct!
- ☐ Any deep network architecture can easily process time-series data.

Question 9

3.0 / 3.0

Which of the following statements about the workloads in deep learning systems are true?

Note: There are 2 correct answers to this question.

- ☒ Deep learning often uses GPUs and special hardware to speed up the computation workloads. Your Answer
- ☒ Training deep networks takes a long time, and it often requires many iterations to build a good model. Correct!
- ☐ The limiting factor in deep learning is the transfer from data disk to main memory.
- ☐ The workloads during training and inference have similar characteristics.
- ☐ Inference in deep learning is fast, as it requires only a single forward pass through the network. Correct Answer

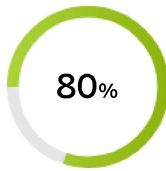
Question 10

3.0 / 3.0

What advantages do cloud platforms provide for deep learning applications?

Note: There are 3 correct answers to this question.

- ☐ Cloud platforms can automatically pre-process data.
- ☐ Cloud platforms ensure data consistency in the application.
- ☒ Developers can re-use existing machine learning services provided by the cloud platform. Correct!
- ☒ Cloud platforms allow sharing of GPU hardware resources across applications. Correct!
- ☒ Cloud platforms provide elastic compute resources to accommodate training and inference workloads. Correct!



Total: 24.0 of 30.0 points achieved

Remaining attempts: 0

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