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Exam Professional Machine Learning Engineer All Questions

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EXAM PROFESSIONAL MACHINE LEARNING ENGINEER TOPIC 1 QUESTION 30 DISCUSSIO..

Actual exam question from Google's Professional Machine Learning Engineer

Question #: 30

Topic #: 1

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Your team trained and tested a DNN regression model with good results. Six months after deployment, the model is performing poorly due to a change in the distribution of the input data. How should you address the input differences in production?

- A. Create alerts to monitor for skew, and retrain the model.
- B. Perform feature selection on the model, and retrain the model with fewer features.
- C. Retrain the model, and select an L2 regularization parameter with a hyperparameter tuning service.
- D. Perform feature selection on the model, and retrain the model on a monthly basis with fewer features.

Show Suggested Answer

by [deleted] at June 2, 2021, 11:19 p.m.

Comments

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celia20200410 Highly Voted 3 years, 3 months ago

A

Data values skews: These skews are significant changes in the statistical properties of data, which means that data patterns are changing, and you need to trigger a retraining of the model to capture these changes.

https://developers.google.com/machine-learning/guides/rules-of-ml/#rule_37_measure_trainingserving_skew

👍 ↩ 🚩 upvoted 33 times

🗄️ 👤 **mousseUwU** 3 years ago

I agree, A is correct

👍 ↩ 🚩 upvoted 2 times

🗄️ 👤 **oliveoil** 2 years, 11 months ago

Rule #37:

The difference between the performance on the holdout data and the "nextday" data. Again, this will always exist. You should tune your regularization to maximize the next-day performance. However, large drops in performance between holdout and next-day data may indicate that some features are time-sensitive and possibly degrading model performance.

Maybe it should be C

👍 ↩ 🚩 upvoted 2 times

🗄️ 👤 **Paul_Dirac** Highly Voted 3 years, 4 months ago

A

Data drift doesn't necessarily require feature reselection (e.g. by L2 regularization).

<https://cloud.google.com/architecture/mlops-continuous-delivery-and-automation-pipelines-in-machine-learning#challenges>

👍 ↩ 🚩 upvoted 5 times

🗄️ 👤 **PhilipKoku** Most Recent 5 months ago

Selected Answer: A

A) Monitor the model and set alerts

👍 ↩ 🚩 upvoted 1 times

🗄️ 👤 **tavva_prudhvi** 1 year, 4 months ago

Selected Answer: A

When the distribution of input data changes, the model may not perform as well as it did during training. It is important to monitor the performance of the model in production and identify any changes in the distribution of input data. By creating alerts to monitor for skew, you can detect when the input data distribution has changed and take action to retrain the model using more recent data that reflects the new distribution. This will help ensure that the model continues to perform well in production.

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🗄️ 👤 **M25** 1 year, 6 months ago

Selected Answer: A

Went with A

👍 ↩ 🚩 upvoted 2 times

🗄️ 👤 **SergioRubiano** 1 year, 7 months ago

Selected Answer: A

A is correct

👍 ↩ 🚩 upvoted 1 times

🗄️ 👤 **tavva_prudhvi** 1 year, 8 months ago

Its A, as the model itself is performing well, neither overfitting nor performing poorly suddenly, it's a gradual change so regularization on the original model would not help. C is incorrect.

👍 ↩ 🚩 upvoted 1 times

🗄️ 👤 **Fatiy** 1 year, 8 months ago

Selected Answer: A

Creating alerts to monitor for skew in the input data can help to detect when the distribution of the data has changed and the model's performance is affected. Once a skew is detected, retraining the model with the new data can improve its performance.

👍 ↩ 🚩 upvoted 1 times

🗄️ 👤 **enghabeth** 1 year, 9 months ago

Selected Answer: A

Skew & drift monitoring: Production data tends to constantly change in different dimensions (i.e. time and system wise). And this causes the performance of the model to drop.

<https://cloud.google.com/vertex-ai/docs/model-monitoring/using-model-monitoring>

👍 ↩ 🚩 upvoted 1 times

🗄️ 👤 **...** 1 year, 11 months ago

  **niromi** 1 year, 11 months ago

Selected Answer: A

A

You don't need to do feature selection again

   upvoted 2 times

  **Mohamed_Mossad** 2 years, 4 months ago

Selected Answer: A

A very obvious , no need for explanation

   upvoted 1 times

  **Mohamed_Mossad** 2 years, 4 months ago

Selected Answer: A

abviously A no tricks here , no too much thinking

   upvoted 1 times

  **ggorzki** 2 years, 9 months ago

Selected Answer: A

A

as celia explained

   upvoted 1 times

  **kaike_reis** 2 years, 11 months ago

Colleagues that said (C) keep attention for the question: They said the model was good, so for skewness is only necessary the (A) solution.

   upvoted 1 times

  **Danny2021** 3 years, 1 month ago

A. It is well documented in Google model monitoring docs.

   upvoted 2 times

  **gcp2021go** 3 years, 3 months ago

should be C. as L2 regularization prevent overfitting - can potential maintain model performance if data distribution is little skewed.

   upvoted 2 times

  **inder0007** 3 years, 4 months ago

A model learns the distribution of the data, if it has done its job well any change in the distribution will lead to underperformance not by virtue of poor model performance but by very definition.

   upvoted 2 times

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