## EXAM PROFESSIONAL MACHINE LEARNING ENGINEER TOPIC 1 QUESTION 69 DISCUSSIO..

Actual exam question from Google's Professional Machine Learning Engineer
Question #: 69
Topic #: 1
[All Professional Machine Learning Engineer Questions]

You need to build an ML model for a social media application to predict whether a user's submitted profile photo meets the requirements. The application will inform the user if the picture meets the requirements. How should you build a model to ensure that the application does not falsely accept a non-compliant picture?

A. Use AutoML to optimize the model's recall in order to minimize false negatives.

B. Use AutoML to optimize the model's F1 score in order to balance the accuracy of false positives and false negatives.

C. Use Vertex AI Workbench user-managed notebooks to build a custom model that has three times as many examples of pictures that meet the profile photo requirements.

D. Use Vertex AI Workbench user-managed notebooks to build a custom model that has three times as many examples of pictures that do not meet the profile photo requirements.

Show Suggested Answer

by YangG at *Dec. 9, 2022, 3:47 a.m.*

### Comments

**LearnSodas** Highly Voted 1 year, 10 months ago

I think it's B, since we want to reduce false positives

upvoted 17 times

**jamesking1103** 1 year, 9 months ago

B
yes, A is incorrect as minimize false negatives does not help

upvoted 3 times

**julesnoa** 1 month ago

False negative: Non-compliant, but did not alert. That is what we want to minimize.

upvoted 2 times

**julesnoa** 1 month ago

Upon reading further it seems like the model predicts compliance, so a positive means the picture is compliant. Then B seems more appropriate

upvoted 1 times

**NickHapton** 1 year, 4 months ago

a non-compliant profile image = positive
false negatives = didn't alert the non-compliant profile image
so the objective is to minimize false nagatives

upvoted 10 times

**[Removed]** Highly Voted 1 year, 3 months ago

Selected Answer: A

The answer is A. The negative event is usually labeled as positive (e.g., fraud detection, customer default prediction, and here non-compliant picture identification). The question explicitly says, "ensure that the application does not falsely accept a non-compliant picture." So we should avoid falsely labeling a non-compliant image as compliant (negative).

It is never mentioned in the question that false positives are also a concern. So, recall is better than F1-score for this problem.

upvoted 13 times

**baimus** 1 month, 2 weeks ago

The question explicitly states that this isn't the case, it's identifying compliant images, it is compliance that is the positive, so F1 is the only sensible metric.

upvoted 1 times

**baimus** Most Recent 1 month, 2 weeks ago

Selected Answer: B

A is wrong because we are trying to minimise false positives, not false negatives. The question states that the model identifies compliance (rather than non-compliance) so a positive means compliant.
B is correct, though one would usually say "we are trying to optimise precision", optimising F1 is the only answer that addresses this, albiet not as directly as I'd like.
C and D are nonsense.

upvoted 1 times

**PhilipKoku** 4 months, 2 weeks ago

Selected Answer: A

A) Minimise False Negatives

upvoted 1 times

**girgu** 4 months, 4 weeks ago

Selected Answer: D

D. Cost of Misclassification: In this scenario, falsely accepting a non-compliant picture (false positive) is more critical than rejecting a compliant picture (false negative). A user with a non-compliant picture could violate the platform's terms or negatively impact the user experience.
Training Data Imbalance: Social media applications might receive many compliant pictures and far fewer non-compliant ones. A standard training dataset might be imbalanced, with the model learning more from the majority class (compliant pictures).

upvoted 1 times

**Delphin_8150** 6 months, 4 weeks ago

Selected Answer: B

Gonna go with B on this one, tricky question but since reducing false positives is the goal here only B fits that requirement

upvoted 1 times

**pinimichele01** 5 months, 4 weeks ago

a non-compliant profile image = positive
false negatives = didn't alert the non-compliant profile image
so the objective is to minimize false nagatives

upvoted 1 times

**Carlose2108** 7 months, 3 weeks ago

Selected Answer: A

I went with A.

upvoted 2 times

**b1a8fae** 9 months ago

Selected Answer: B

B.
A non-compliant picture is the positive and not the negative. What the question is asking is to decrease the number of false positives ("falsely labeled as non compliant"), which is achieved through optimizing for precision and not recall. Since C and D sound a bit overkill, I would go for the one that prioritizes false positives which is B.

upvoted 2 times

**Mickey321** 11 months, 1 week ago

Think is B since we need to optimize for percision

upvoted 1 times

**Mickey321** 11 months, 1 week ago

Selected Answer: D

Minimize False positive. Hence percision. D is the closest.

upvoted 1 times

**Krish6488** 11 months, 2 weeks ago

Selected Answer: B

Optimising for false positives is the goal here which should have been precision. Since precision is not available in options, the next best is F1 score which is harmonic mean of precision and recall. Although it wont fully satisfy the false positives it atleast wont skew towards recall which is more false positives that deviates from the goal. Hence B

upvoted 1 times

**MCorsetti** 1 year ago

Selected Answer: B

We should optimize for precision to minimize false positives, so optimizing for recall should be incorrect. F1 Score will balance both precision and recall. Both B and C might not necessarily meet the goal

upvoted 1 times

**aberthe** 1 year ago

Selected Answer: A

I vote B

upvoted 1 times

**libo1985** 1 year ago

A. Let me explain why. You may have 3 times more examples of images, however, the total number of images can be small, which lead to poor model performace, so C and D are not the for definite answer. The target is the detection of abnormal photo, so falsely accept a non-compliant picture is false negative. So A.

upvoted 2 times

**libo1985** 1 year ago

A. Let me explain why. You may have 3 times more examples of images, however, the total number of images can be small, which lead to poor model performace, so C and D are not the for definite answer. The target is the detection of abnormal photo, so falsely accept a non-compliant picture is false negative. So A.

upvoted 1 times

**lalala_meow** 1 year ago

Selected Answer: A

I was thinking B but after reading the comments I think it should be A.
I was thinking a non-compliant profile image = negative but actually it should be the positive case we do want to flag out. So minimising false negative fits the requirement "ensure that the application does not falsely accept a non-compliant picture."

upvoted 1 times

**SamuelTsch** 1 year, 3 months ago

Selected Answer: B

B should be correct. It covers not only the recall but also the precision

D should be correct. It covers not only the recall but also the precision

upvoted 1 times

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