

MACHINE LEARNING QUESTIONS

[Home](#)[Competition](#)[Past Questions](#)[Sponsorships](#)[Logout](#)

IT'S SEPTEMBER 20 SOMEWHERE AND HERE IS TODAY'S QUESTION

TODAY'S QUESTION

Grocery fruits

Serena has been given an intriguing project at her workplace. She has to design an object detection model that identifies different types of fruits in images taken from a grocery store.

Her goal is to create a model that can be easily modified and used for other similar tasks in the future.

To ensure that her model performs at its best, Serena needs a method to evaluate it effectively. This evaluation method should allow her to compare and choose the best among different versions of the model.

Which evaluation metrics should Serena use to evaluate her model?

- > **F1 score**
[CORRECT]
- **Mean Average Precision (mAP)**
[YOU MISSED THIS ONE]

- > **ROC Curve**
[INCORRECT]
- > **Precision-Recall Curve**
[CORRECT]

Let's review the answer together:

The recall is useful for object detection, but it can't provide the full picture unless combined with Precision. High recall and low precision could lead to a model that is not useful. Therefore, Serena cannot rely solely on Recall as her key evaluation metric.

ROC Curves are not typically used for object detection tasks, as there's no real concept of True Negatives, which are required to compute the False Positive Rate, one of the axes of the ROC curve. In object detection tasks, the number of bounding boxes that do not contain an object of interest is generally too large to handle effectively.

Instead, Serena could compute a **Precision-Recall Curve**. This curve is similar to the ROC curve but uses the model's precision instead of False Positive Rate, thereby avoiding the problem of True Negatives.

Mean Average Precision (mAP) is commonly used in object detection tasks to evaluate the overall performance of a model across all classes. It considers precision and recall and averages them over different Intersection over Union (IoU) thresholds, providing a single scalar value that Serena can use to compare different models.

Lastly, the **F1-score** is a good choice, as it considers both the precision and recall of the model, offering a balanced view of the model's performance.

Recommended reading

- Check "[Classification: ROC Curve and AUC](#)" for an explanation of how to create and interpret a ROC curve.
- For more information about Precision-Recall curves, check [Scikit-Learn's documentation](#).

Share this!

787 people have answered this question with 55% accuracy

SEE YOU TOMORROW FOR A NEW QUESTION

[CLICK HERE TO TIME TRAVEL](#) AND ANSWER TOMORROW'S QUESTION.

You answer to this question counts towards your [leaderboard](#) position. Tomorrow we'll publish the correct answer and explanation, so everybody has an opportunity to participate without spoils.

[Show me the question](#)

Your overall score is **300** (**96%** percentile) and you have achieved **46%** of every possible point over the past 7 days.

You have answered **4** questions and your current streak is **4**.

Next question in 11:22 hours. You are logged in as 0xeguna@gmail.com
(achievable_nylon_loris).

For comments or feedback, contact us at hey@bnomial.com or [@0xbnomial](https://t.me/0xbnomial).