

- Welcome
- Introduction: Machine Learning concepts
- Module 1. The Predictive Modeling Pipeline
- Module 2.
 Selecting the best model
- Module 3.Hyperparameter tuning
- Module 4.Linear Models
- Module 5.Decision tree models
- Module 6.Ensemble of models
- Module 7.Evaluating model performance

☑ Quiz M7.05

Note: For each question **make sure you select all of the correct options**— there may be more than one! Don't forget to use the sandbox notebook if you need.

Question 1 (1/1 point)

What is the default score in scikit-learn when using a regressor?

|--|

- b) mean absolute error
- O c) median absolute error

EXPLANATION

solution: a)

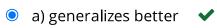
Each regressor in scikit-learn uses the R² score as a default metric: documentation

You have used 1 of 1 submissions

Question 2 (1/1 point)

If we observe that the values returned by

cross_val_scores(model, X, y, scoring="r2") increase after changing the model parameters, it means that the latest model:





model with simple baselines

Quiz M7

Choice of crossvalidation

Ouiz M7

Nested crossvalidation

Ø Quiz M7

Classification metrics

Ø Quiz M7

Regression metrics

Quiz M7

Wrap-up quiz

Wrap-up quiz

Main take-away

- Conclusion
- Appendix

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EXPLANATION

solution: a)

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Question 3 (1/1 point)

If all the values returned by

cross_val_score(model_A, X, y, scoring="neg_mean_squared_error") are strictly lower than those returned by

cross_val_score(model_B, X, y, scoring="neg_mean_squared_error") |, it means that model_B generalizes:



b) worse than model A

EXPLANATION

solution: a)

Lower **error** values means a better model. Considering the **negative** error (i.e. multiplying by | -1 |) reverses this relationship. In general, the scoring parameter passed to scikit-learn model selection utilities expects the convention that

"higher is better", hence the slightly counter intuitive use of "neg_mean_squared_error" instead of "mean_squared_error" in scikit-learn.

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cross_val_scores(model, X, y, scoring="neg_mean_squared_error")
are:

- a) guaranteed to be positive or zero
- b) guaranteed to be negative or zero
- O c) can be either positive or negative depending on the data

EXPLANATION

solution: b)

The mean squared error is always positive or zero (never negative) since:

- taking the square of a value maps a negative value to a positive value, zero to zero and a positive value to a positive value;
- the average of an array of positive values is a positive value.

Therefore the **negative** mean squared error is guaranteed to be negative or zero by reversing the sign of the mean squared error (i.e. multiplying by -1).

You have used 1 of 1 submissions

YOUR EXPERIENCE

According to you, this whole 'Regression metrics' lesson was:

- O Too easy, I got bored
- O Adapted to my skills
- Difficult but I was able to follow
- Too difficult



To follow this lesson, I spent:

- O less than 30 minutes
- O 30 min to 1 hour
- O 1 to 2 hours
- O 2 to 4 hours
- O more than 4 hours
- O I don't know

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