

- ▶ Welcome
- ▶ Introduction: Machine Learning concepts
- ▶ Module 1. The Predictive Modeling Pipeline

▼ **Module 2.**  
Selecting the best model

Module overview

**Overfitting and Underfitting**

Quiz M2 


**Validation and learning curves**

Quiz M2 

**Bias versus variance trade-off**

Quiz M2 

**Wrap-up quiz**

Wrap-up quiz 

**Main Take-away**

- ▶ Module 3. Hyperparameter tuning

- ▶ Module 4.

## ✓ Quiz M2.01

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)

A model that is underfitting:

☐ a) is too complex and thus highly flexible

☒ b) is too constrained and thus limited by its expressivity ✓

☒ c) often makes prediction errors, even on training samples ✓

☐ d) focuses too much on noisy details of the training set



Select all answers that apply

#### EXPLANATION

solution: b) c)

b) is the definition of a model that underfits. As a result, this model will make prediction errors, even on the training set due to its lack of flexibility.

You have used 1 of 2 submissions

### Question 2 (1/1 point)

A model that is overfitting:

- ▶ Module 5.  
Decision tree  
models
- ▶ Module 6.  
Ensemble of  
models
- ▶ Module 7.  
Evaluating  
model  
performance
- ▶ Conclusion
- ▶ Appendix

☐ b) is too constrained and thus limited by its expressivity

☐ c) often makes prediction errors, even on training samples

☒ d) focuses too much on noisy details of the training set ✓



Select all answers that apply

#### EXPLANATION

solutions: a) and d)

a) is the definition of a model that overfits. As a consequence, it will not make any or little error on the training set, even on noisy samples. However, the prediction function does not reflect the true generative process and induces errors on the test set.

*You have used 1 of 2 submissions*

#### YOUR EXPERIENCE

According to you, this whole 'Overfitting and Underfitting' lesson was:

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

Submit

To follow this lesson, I spent:

- ☐ **less than 30 minutes**

- ☐ **2 to 4 hours**
- ☐ **more than 4 hours**
- ☐ **I don't know**


Submit

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FORUM (EXTERNAL RESOURCE)

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