

# Overfitting and regularization

Quiz, 4 questions

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point

1.

Select correct statements about overfitting:

- ☐ Large model weights can indicate that model is overfitted
  - ☐ Overfitting is a situation where a model gives lower quality for new data compared to quality on a training sample
  - ☐ Overfitting happens when model is too simple for the problem
  - ☐ Overfitting is a situation where a model gives comparable quality on new data and on a training sample
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2.

What disadvantages do model validation on holdout sample have?

- ☐ It can give biased quality estimates for small samples
  - ☐ It requires multiple model fitting
  - ☐ It is sensitive to the particular split of the sample into training and test parts
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## Overfitting and regularization



3. Quiz, 4 questions

Suppose you are using k-fold cross-validation to assess model quality. How many times should you train the model during this procedure?

- ☐ 1
  - ☒  $k$
  - ☐  $k(k-1)/2$
  - ☐  $k^2$
- 

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4.

Select correct statements about regularization:

- ☒ Regularization restricts model complexity (namely the scale of the coefficients) to reduce overfitting
  - ☐ Weight penalty reduces the number of model parameters and leads to faster model training
  - ☒ Weight penalty drives model parameters closer to zero and prevents the model from being too sensitive to small changes in features
  - ☐ Reducing the training sample size makes data simpler and then leads to better quality
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